

U. S. ARMY-BAYLOR UNIVERSITY
GRADUATE PROGRAM IN HEALTH CARE ADMINISTRATION

AMBULATORY DATA SYSTEM: A CASE STUDY IN
THE IMPLEMENTATION OF AN AMBULATORY DATA SYSTEM
AT NAVAL MEDICAL CENTER, PORTSMOUTH, VIRGINIA

A GRADUATE MANAGEMENT PROJECT
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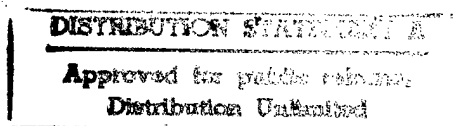
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ABSTRACT

The Naval Medical Center Portsmouth, Virginia was tasked by Higher Authority with implementation of the Ambulatory Data System. To facilitate the implementation process, the Ambulatory Data Implementation Team was formed. The team's composition was a cross-representation of all areas of NMCP affected by the ADS. Members were designated by official appointment letters from the Commanding Officer.

The team's charge was to serve as a mechanism for discovery, discussion, and resolution of clinic-based problems during the ADS implementation, serve as a forum for the presentation and discussion of proposals related to the use of the ADS at NMCP, and provide policy recommendations on the courses of action regarding the ADS to the Board of Directors (BOD), Deputy Commander and Commander for review and action.

The chief aim of the implementation of the ADS is to collect base-line data on ambulatory care encounters at NMCP. This data will be included in the analysis of ambulatory care costs throughout Region 2. The data analysis will subsequently provide valuable input for bid price adjustments and modifications to the MCSC for the region.

ADS implementation at NMCP offers the potential for tremendous organizational-wide rewards and benefits. These include, but are not limited to, opportunities to evaluate

quality and cost-effectiveness of care and the ability for providers to track and manage care provision. ADS can also provide NMCP leadership the opportunity to perform case mix analysis, evaluate clinic processes, obtain cost of patient-specific encounters, monitor Graduate Medical Education programs with increased accuracy, improve measures of outcomes and perform epidemiological trend assessments. Finally, ADS, in conjunction with process re-engineering efforts, may increase efficiency and productivity, further enhancing cost-containment, access to care, and the quality of health care services available at NMCP.

The ADSIT has not been effective to date in the current implementation process. It has been a painstakingly frustrating experience, and many challenges lie ahead. It is essential that the team develops a systems approach. The team must revisit its stated purpose and refocus its energies on the entire spectrum of its purpose and not get bogged down in any one element of the implementation process.

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CHAPTER 1

INTRODUCTION

"We trained hard---but it seemed that every time we were beginning to form up into teams, we would be reorganized. I was to learn later in life we tend to meet any new situation by reorganizing, and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralization"

Petronius Arbiter
Satyricon, 66 A.D.

BACKGROUND

Tremendous changes are occurring nationally in the health care delivery system. For several years, medical professionals and health care administrators have recognized and identified the most important problems in the United States' health care delivery system: inadequate and maldistributed health care manpower, uneven accessibility and quality of health services, and escalating costs (Vallbona, Beggs-Baker, and Baker, 1978). The escalation of managed care is a direct response by the health care system to address these issues.

Noted health services researcher Victor Fuchs provided an economist's analysis of three major problems of health and

medical care in the United States: 1) the cost of care, 2) access to care, and 3) determinants of health levels (Fuchs, 1974). The growth of managed care is the result of two strong economic forces in the health care marketplace: (1) excess capacity in the current delivery system and, (2) continued escalation in health care costs due to inflation, utilization rates, technology costs, and cost-shifting (McGuire, 1994).

The amount of resources presently allocated to health care at the national level is approximately 15% of the Gross National Product (GNP), with projections of up to 20% by the year 2000, unless significant changes occur (KPMG, 1994). The Commerce Department's 1994 forecast on total health care spending was in excess of \$1 trillion dollars, or approximately \$3,900 per capita (KPMG, 1994).

The continuing rise in health care spending is contributing profoundly to a weakening of the national competitive position. Through the past decade, approximately half of real per capita income gains have been spent on health care (KPMG, 1993). Investments of this amount on health care reduces the amount of funds available for other critical activities such as education, crime prevention, and social programs. Additionally, investment opportunities diminish in both financial and human resources terms as health care cost continue to escalate, further threatening the United States position as an economic power (KPMG, 1993).

The requirement to provide cost-effective, high-quality, accessible health care continues to place a major stress on national resources. Industry trends indicate a steady growth in managed care over the next decade (Kongstevdt, 1994). It is imperative for health care organizations to contain costs, provide greater access, and deliver a high-quality product to remain viable. Simply put, organizations failing to meet these challenges will not survive.

The Military Health Services System (MHSS) is not exempt from these challenges. Adjusting to rapidly changing social, economic, and political environments, the MHSS is under tremendous pressure to reduce costs, increase quality, and improve access to its beneficiaries. And like many other large employers, the MHSS is also facing steadily rising costs, decreasing funding and increasing utilization (Starr, 1993).

The MHSS is aggressively developing a managed care plan to provide care for its nine million and growing beneficiary population in response to these changes and pressures. The TRICARE program is the vehicle by which the MHSS will implement a comprehensive managed health care program for the delivery and financing of health care services. This program is being developed to assist in expanding access to care, assuring high quality care, controlling health care costs for patients and taxpayers alike, and improving medical readiness (BUMED, 1996).

TRICARE is the program through which medical care is

provided to active duty members, qualified family members, non-Medicare eligible retirees and their family members, and survivors of all uniformed services. Due to current legislative prohibitions against the transfer of Medicare funds to the TRICARE system, Medicare-eligible beneficiaries and retirees are excluded from participation in the TRICARE program (BUMED, 1996). There are proposals to change the law allowing for the "subvention" of funds from one system to the other, however, similar attempts in the past have been unsuccessful.

Until Medicare subvention, Medicare eligible retirees will continue to receive care in MTFs on a "space-available basis". They also continue to be eligible to use the health care finder to access TRICARE providers who accept Medicare assignment. Additionally, Medicare-eligible military retirees in base realignment and closure areas (BRAC) are authorized to participate in the mail order and retail pharmacy programs provided by regional Managed Care Support Contractors (BUMED, 1996).

One of the principal mechanisms for the implementation of TRICARE is the designation of selected commanders of large regional Navy, Army and Air Force Medical Centers as Lead Agents (LA) for the twelve TRICARE regions across the country (BUMED, 1996). The designated LA has the responsibility to develop, in collaboration with all MTF commanders in the region, an integrated plan for the delivery of health care to beneficiaries

residing within the region (Deputy Secretary of Defense, 1994). Each LA is given the authority and responsibility for CHAMPUS oversight, the management of the TRICARE support contracts, the coordination of Non-Availability Statements (NAS), and approval of referral processes within their respective region (DoD, 1995).

The implementation of Managed Care Support Contracts (MCSC) is a key component to the TRICARE program. These contracts include special arrangements with civilian sector health care providers along with improved coordination between military Medical Treatment Facilities (MTFs) and civilian providers (DoD, 1995). An overview of the TRICARE Program implementation requirements and procedures is provided in Appendix A.

The ability to compare health care data generated from all elements under the control of the LA is essential to the MCSC strategy. Comparisons between MTF data and civilian entities' data is necessary to support "make-buy" decisions and to provide for eventual cross-reimbursement between MTFs and Lead Agents (NMCP, 1994).

Presently, the civilian health care industry collects ambulatory health care data by International Classification of Diseases-9th Revision-Clinical Modification (ICD-9 CM) diagnostic codes and Current Procedural Terminology 4th Revision (CPT-4) codes. Both are nationally recognized standards for ambulatory health care data.

The Department of Defense (DoD) and the MHSS currently

collects ambulatory data using the Medical Expense Performance Reporting System (MEPRS) methodology. The purpose of MEPRS is to provide for standardization and consistency in the accounting and reporting of DoD resources utilized. It is also the basis for uniform reporting of financial and operational performance data in the provision of health care delivery at fixed military medical facilities. This data is subsequently used by health care managers to make decisions regarding resource utilization within the facility (DoD, 1986). A more complete overview of MEPRS is provided in Appendix B.

These two data collection systems, MEPRS and CPT-4/ICD-9 CM, are not synonymous or interchangeable. This presents a significant problem for data comparison between the MHSS and civilian contractors/providers. The Ambulatory Data System (ADS) has been developed as an interim solution for this problem.

ADS provides for the collection of ambulatory encounter data at MTFs by ICD-9 CM and CPT-4. This data collection methodology provides the MHSS with the ability to compare its data with the civilian sector on equal terms. Appendix C provides a detailed explanation of ADS.

In a memorandum to the Assistant Secretaries of the Military Departments, the Office of the Assistant Secretary of Defense, Health Affairs (OASD-HA) directed the services to commence collection of CPT and ICD ambulatory care data in Fiscal Year (FY) 95 (OASD-HA, 1995). This was an important preparatory step

in the process of collecting ambulatory encounter data within the MHSS for analysis and comparison with the civilian sector. This analysis process will facilitate bid price adjustments and modifications of the MCSC.

Prior to these efforts, ambulatory encounter data collection was virtually non-existent in the MHSS, and what data was available did not lend itself easily to managerial analysis. Rear Admiral (Ret) Stephen Backus, M.D., former Deputy Navy Surgeon General, notes that authoritative cost and economic data on ambulatory military health care are sorely lacking (Starr, 1993).

In a 18 AUG 95 memorandum, OASD-HA mandated implementation of ADS in Regions 1, 2, and 5 by April, 1996 (OASD, 1995). This system was selected to provide capture of all ambulatory health care data electronically at the point of service and integrate it with the Composite Health Care System (CHCS) into a single patient record. The collected data would then facilitate case mix analysis, case management, modification of care practices, costing of patient specific encounters. This would also improve measures of outcomes and epidemiological trend assessments (TRICARE, 1994).

The Naval Medical Center Portsmouth (NMCP), Virginia serves as the Lead Agent institution for Region 2. A major medical facility within the MHSS, NMCP provides an extensive range of inpatient and outpatient medical services to active duty service

members and authorized beneficiaries. It is responsible for approximately 450,000 total MHSS beneficiaries in the Tidewater area (Whiting, 1995).

During FY95, NMCP provided over 1,806,731 outpatient visits. The accurate capture of ambulatory data by NMCP will provide a tremendous amount of information. The implementation of ADS may impact health care services management activities and clinical practices at NMCP and throughout Region 2.

PROBLEM STATEMENT

The collection of ambulatory encounter data at NMCP is accomplished primarily through MEPRS reports from each clinic area. While MEPRS is capable of capturing workload data, it does not collect ambulatory encounters by CPT-4 and ICD-9 data. This severely limits MEPRS data utility for ambulatory encounter analysis in support of the MCSC (Edwards, 1996).

The chief aim of the implementation of the ADS is to collect base-line data on ambulatory care encounters at NMCP. This data will be included in the analysis of ambulatory care costs throughout Region 2. The data analysis will subsequently provide valuable input for bid price adjustments and modifications to the MCSC for the region.

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Simultaneously, ADS presents a tremendous challenge to the organization. The implementation of ADS represents a significant change in business and clinical operations at NMCP. As such, multiple barriers to ADS' full implementation are evident throughout the organization.

Different groups of individuals have expressed apprehension regarding the implementation of ADS---providers express concerns that ADS will not provide benefits which will justify the burden of utilizing it; nursing personnel are concerned that ADS will not accurately account for nursing time and care; clerical personnel voice concerns that the implementation of ADS will result in re-engineered processes which may change or eliminate positions. Each of these areas are also concerned with how resources will be redistributed following any re-engineering resulting from ADS implementation.

There are several other areas of concern which have been expressed by personnel in the different groups mentioned above. These include, but are not limited to:

- ADS functionality
- absence of an infrastructure to support ADS
- fear of change
- fear of accurate information/data
- the absence of clear processes in some clinical areas
- concerns about impact of re-engineering (i.e., downsizing)
- power struggles, i.e., "turf battles"
- political agendas

In addition to the barriers mentioned above, there are two major concerns for NMCP with the implementation of ADS--1) the mandated start date for implementation, and 2) unresolved technical problems with ADS. These two issues create significant pressures upon NMCP for implementation.

The initial start date for ADS implementation was mandated by Department of Defense, Health Affairs (DoD-HA) to be May 1, 1996. A subsequent revision in the MCSC start date to 01 AUG 97 moved the implementation date of ADS to 01 AUG 96. Additional delays in the implementation of the MCSC has resulted in the most recent revision of ADS' implementation date to 01 SEP 96.

While this new start date offers some relief from the pressure created by the earlier start dates, the new deadline continues to place NMCP in a precarious position. This results

from many factors and variables associated with ADS implementation which are beyond the direct control of NMCP. These include required wiring installation, determination of hardware requirements, hardware delivery to NMCP, installation of the hardware, availability of training material and hardware for multiple training requirements, all coupled to constantly changing implementation dates.

The second major issue involves unresolved technical issues regarding ADS functionality, including the completion of beta testing and DoD acceptance of ADS, the upgrade of ADS to version 1.0 from its current version 0.4, ADS/CHCS connectivity and scanner problems, the end-of-day (EOD) processing interface with CHCS, and the adhoc reports writer. There are also additional problems with the design and functionality of the encounter forms.

During a time of decreasing resources and increasing requirements, the ability to gather and analyze accurate data can greatly improve the decision-making processes at NMCP and may result in maximal utilization of limited resources. The implementation of ADS offers the potential for tremendous savings in contract dollars for the command, Region 2, and the MHSS. The exact amount, or even a bonafide estimate of savings, cannot be projected due to DoD's present inability to determine comparable outpatient encounter costs throughout the MHSS.

The maximization of resources, an increase in the access to care, and an increase in the quality of care are the assumptions associated with the implementation of ADS. Accomplishing these will require an organized and concerted organizational effort.

The ADS Implementation Team (ADSIT) at NMCP was initially created as the ADS Steering Committee in October, 1994. The committee's purpose was to provide a forum for discussion and review of current issues and policies regarding ADS at NMCP. The committee's charge was to serve as a mechanism for discovery, discussion, and resolution of clinic-based problems during ADS implementation, serve as a forum for the presentation and discussion of proposals related to the use of ADS at NMCP, and provide policy recommendations on the courses of action regarding ADS to the Board of Directors (BOD), Deputy Commander and Commander for review and action (NMCP, 1994).

Following approval of the recommendations and the establishment of command policy(s), the committee would become responsible for the implementation of these command policies. Additionally, the committee is responsible for the development of a command ADS Standard Operating Procedures (SOP) Manual to provide guidance at the command and clinic level. The SOP is to include guidelines on training and management of the ADS. Finally, the committee is to serve as the command liaison with external agencies, i.e., the Bureau of Medicine (BUMED) and OASD(HA) (NMCP, 1994).

LITERATURE REVIEW

The utilization of information systems in health care organizations has increased dramatically over the past thirty to forty years (Lastrapes, 1995). The driving forces behind this growth are linked to the rapidly expanding capability of computer technology.

The ability to manipulate coded data in electronic databases and increasing concern about rapidly escalating health care costs are the primary forces in the increased utilization of computer technology in health care. Additionally, the unprecedented demand from patients, payers, providers and public agencies for more and better information about health care processes and outcomes continues to push computer technology to new limits (Kibbe, 1993).

The current highly-competitive business environment of a global economy places increasing demands on managers to make sound and appropriate decisions. These decisions can spell the difference between survival and death for an organization. Good decisions require not just data, but timely data transformed into information, which can be accurately analyzed and acted upon.

Within the managed care arena, it is well-recognized that a reliable, flexible, efficient, and effective information system is crucial to organizational success. This system must provide a competitive edge, thereby acquiring more strategic function capability as opposed to merely the traditional transactional

system (Tecotzky, 1989). This task is very difficult given the rapidity of change within the managed care business and the complexity associated with keeping pace technologically.

In addition to the constant change in both health care and information system environments, the costs associated with information system deployment can be phenomenal. Austin and Sobczak (1993) provide the example of Lincoln National Corporation which invested over \$50 million to develop their own information system. The system was designed to pool a range of data from utilization to managed care products in order to improve healthcare quality and control costs. The original system was designed to incorporate over 120 managed care markets. It provided employers with the ability to assess effectiveness of selected benefits packages as well as the best combinations of benefits available to employees. Additionally, it allowed providers to verify eligibility and benefit data.

Schwartz (1991) provided a description of how the Harvard Community Health Plan formed a joint venture with Electronic Data Systems (EDS) to design a computer system to create improved communications between patients and providers by automation. The cost to develop this system was in excess of \$1 million, however, projected costs savings were as much as thirty percent through the reduction of paperwork by providers.

According to Widra and Fottler (1992), Complete Health, an IPA-model HMO founded in 1986 developed its own information

systems and software for claims processing, financial reporting, marketing support, and utilization review. These systems were critical factors in Complete Health's increase in profits from 1988 to 1990.

In this dynamic and tumultuous environment, information will be an essential resource (Austin and Sobczak, 1993). All stakeholders involved in the process of improving quality and containing costs require accurate and reliable information to support strategic planning, market analysis, contracting, program operations, quality assurance, cost containment, and program evaluations of health care institutions (Austin and Sobczak, 1993).

Cost-conscious consumers will subscribe to only those organizations that do the best job in cost reductions and improving quality (Enthoven, 1992). Present trends in the health care administration arena demand sophisticated information systems to support marketing efforts, deal with increasingly complex billing systems, track contracts, merge financial and clinical information and support many other facets of the delivery system (Toole and Campbell, 1990).

Highly competitive markets today demand managers have access to information to assist in strategic planning, development, and marketing of services. Competing and surviving in the current heavily cost regulated environment, requires health care

administrators have access to accurate and timely information for proper resource allocation decisions.

Edward Chadwick, vice president and chief financial officer at 450-bed St. Joseph Mercy Hospital, Pontiac, MI states, "Information systems are only helpful so long as you have management processes that allow you to use the data", (Johnson, 1991). These processes include determining and meeting senior management's data needs for strategic planning and daily operations, synthesizing data into a form senior management can use for effective decision making, and passing data to middle managers and providers in a timely fashion to enable them to improve their performance (Johnson, 1991).

Present requirements for continuous performance evaluation both to improve quality of services and meet the scrutiny of regulatory agencies demands rapid access to output measures used to aid in monitoring performance. St. Joseph's Chadwick states, "we believe the only way we're going to substantially change the cost of delivering care is to have front-line clinicians and physicians better understand the financial implications for what they do, and have better information to make resource decisions" (Johnson, 1991).

It is important that all key players in health care delivery know their impact upon cost-containment and quality services. Nurses must understand the relationship between high-quality nursing care and intervention and a patient getting out of the

hospital a day early. Physicians need to know how their practice patterns affect the organization and what are the financial implications of these patterns. Information systems can provide data on outcomes, costs and variability in how services are provided for similar patients. This can facilitate physician cooperation if the information is presented in a fashion that they can interpret in the context of the larger picture (Johnson, 1991).

Additionally, regular evaluation of community impact and financial performance of programs and services demands information which can be used to modify goals and objectives as necessary. This means that health care organizations require flexible information systems which permit expansion into new and existing markets as well as monitor costs and utilization (Austin and Sobczak, 1993). The Military Health Services System (MHSS) is not exempted from these processes.

Just like death and taxes, change is inevitable. Since change is inevitable, individuals, groups and organizations must choose whether to be active or passive participants of change. In other words, we must decide whether to direct change, or simply go through change.

All organizations, regardless of size or scope, are acted upon continually by change, and health services organizations are no exception. Growing societal demands for improved, cost-effective health care, increasing consumer involvement and

participation in the health process, increasing governmental agency involvement, technological advances and innovations within health services organizations are some key sources of pressures to change.

For organizations today, the forces of change appear stronger than ever before in history; technological advances, world-wide social upheaval, "shrinking" of the globe through rapid information access, and an increasingly competitive global marketplace are only some of the factors creating a critical need for managing and directing change. An organization which fails to take a proactive stance in the midst of such significant forces will quickly cease to exist. The course of organizational survival is to provide the maximum amount of direction to the change.

The introduction of an information system into an organization, whether the first time or not, creates tremendous change on the organization. Organizational processes will be altered, the extent of which depends upon the information system. the system will influence organizational operations and the organization will influence the effectiveness of the system (Laudon and Laudon, 1994).

According to Laudon and Laudon (1994), there is a mutual influence shared by information systems and organizations. Organizations must be aware of and receptive to the influences of information systems to gain the benefits from the systems, and

these information systems must be aligned with the organization to provide the information needed by the various important groups within the organization (Laudon and Laudon, 1994).

Mediating factors which impact upon the relationship between information systems and organizations include organizational structure, standard operating procedures, organizational culture and politics, internal and external environments, and management decisions (Laudon and Laudon, 1994). And it stands to reason, the impact of these factors will be as variable as the different types of organizations and information systems.

The microeconomic view of an organization suggests that the introduction of a new technology into the organization merely changes the interaction of inputs resulting in altered outputs. However, from a behavioral perspective, the introduction of a new information system is more than a technical event. Information technology change requires changes in who owns and controls information, who has access and update privileges to this information, and who makes decisions about whom, when, and how (Laudon and Laudon, 1994). Information is power!

Information systems can impact and change the life of organizations tremendously. They may impact upon the balance of power, rearrange the rights, privileges, responsibilities, etc., or the perception thereof, within organizations to such a degree that the organization can be destroyed.

Bureaucracies such as the MHSS are no exception to this. Perhaps even moreso, the MHSS is susceptible to a negative outcome than other organizations given its highly politicized, structured, and hierarchial design. There are natural differences of opinion, perspective and viewpoint about the distribution and allocation of resources, rewards, and punishments within the organization. These differences provide fertile breeding grounds for political struggle, competition, and conflict.

Political resistance is one of the greatest difficulties to overcome in introducing change to an organization (Laudon and Laudon, 1994). Politics, the who does what to whom, where, when, and how, is ever more poignant with the introduction of a new information system because of the power of information. Those information systems which introduce significant change in goals, procedures, productivity, and personnel are always politically charged (Laudon and Laudon, 1994).

The introduction of an information system requires careful planning and knowledge of change and change management. It also requires a clear understanding of organizational social factors. These factors encompass the unique characteristics of the people in the organization, both individually and in small groups, their patterns and processes of interaction, and the many features as larger social groups (Porras and Robertson, 1992). In the aggregate, these factors--(1) culture, (2) management style, (3)

interaction processes, (4) informal patterns and networks, and (5) individual attributes, are the informal organization (Porras and Robertson, 1992). The organization's social factors may act to restrain political conflict and other destructive behaviors by promoting commonality in understanding, agreement, and practices, however, these factors are the most difficult to change.

The present turmoil within the internal and external environments of health care organizations requires a framework to manage and direct rapidly changing environments. As stated by Marcinko (1995), the possibility of success is maximized when there is active collaboration between providers, consumers and suppliers to identify and address common concerns (Marcinko, 1995).

The formation of the ADSIT is a defined effort to develop collaboration. The success of the ADSIT is dependent upon the teams ability to build viable coalitions among the key players within the command, foster grassroots support and build teams effectively (Linial, 1995).

According to Bales (1993), Marcinko (1995) and Ronan (1990), additional factors which contribute to a committee's success in accomplishing its mission include early planning, preparing schedules and timelines, building a strong and viable communications network, and communication with and visitations to other organizations undertaking similar processes.

It is imperative that organizations involved with a change process which will alter the course of business in its present context select a model for change. Several change models exist and the selection of a specific model should be guided by the organization. The key is to select a model and utilize it for guidance and direction through the change. In this fashion, the change process becomes more organized. Chaos will occur in the process of change, that should be expected. Utilizing a model of change should minimize the amount and degree of confusion and chaos.

Organizational development refers to the process of preparing an organization for and managing change (Ivancevich and Matteson, 1993). Porras and Robertson (1992) provide a comprehensive definition of OD:

Organizational development is a set of behavioral science-based theories, values, strategies, and techniques aimed at the planned change of the organizational work setting for the purpose of enhancing individual development and improving organizational performance, through the alteration of organizational members' on-the-job behaviors.

This definition presents OD as a planned, problem-oriented, systems approach which emphasizes improving both the organization's performance and the development of its members. As such, the success of OD is its ability to manage and direct change based upon incorporation of three key ideas--the

importance of individual behavior, the wide array of organizational variables that can be changed, and the dual focus on organizational performance and individual development (Porras and Robertson, 1992).

Organizational development (OD) has emerged as a problem-solving process and a technology which assists an organization in facilitating an assessment of where, when, and how to make changes which are useful, how these changes should be implemented, and how should the changes be evaluated, i.e., the outcomes of the change (Margulies, 1977). As such, OD provides a model, or framework, from which an organization can address change and provide more direction to its impact instead of simply proceeding through the change.

The object of OD is the system, whether a subunit or the entire organization. Its focus is on groups or teams of people and changing the relationships of these groups or teams to improve organizational effectiveness (Fisher, 1980). Change may be the result of deliberate action to improve the organization's functioning (internal planned change), or it may result from external environmental forces (external unplanned change).

The three principles of OD which facilitate successful adaptation to turbulent environments are: (1) a focus on the entire system and the pattern of interactions between the parts; (2) engagement of the key stakeholders in diagnosis, decision making, and implementation; and (3) fostering of continual

organizational learning (Meyer, 1991). While the integration of these principles is important, the organization's readiness to embrace them is the most crucial factor in successful development (Meyer, 1991).

Regardless of the exact source of change, OD is one model which provides a systematic methodology to deal with change. As organizations face a myriad of changes that are propelling them into the next millennium, this model can play a central role in addressing the range of associated problems (Johnson and Boss, 1992).

PURPOSE

The purpose of this study is to describe the ADS implementation process at NMCP, analyze the implementation process, and present "lessons learned". This study reviews the ADSIT and the activities undertaken in planning for the implementation of the ADS. The primary focus is on the organization of the ADSIT, its role in the implementation process, and the steps taken in that process.

The primary objective of the team is to ensure the implementation of the ADS within the timeframe established by OASD(HA). It will identify the resources required to efficiently and effectively deploy and sustain the ADS at NMCP. The identification of these resources at the earliest possible time

provides the command with an opportunity to allocate the required resources to ensure the viability and success of the ADS.

Other military facilities have begun the ADS implementation process with varying degrees of success. Findings from this case study may be utilized to provide recommendations for future ADS implementation. However, since this study will be completed prior to the full implementation of the ADS at NMCP, additional study of the entire process should be completed. This could provide a more thorough understanding of the magnitude of such an endeavor and a more complete evaluation of the effectiveness of the implementation team.

CHAPTER 2

METHODS AND PROCEDURES

The research methodology chosen for this project is the case study. As described by Yin, the case study is the preferred strategy when "how" or "why" questions are posed, when the researcher has little control over events, and when the focus is on a contemporary phenomenon within some real-life context (Yin, 1994). A case study contributes uniquely to the knowledge base of individual, organizational, social, and political phenomena and allows a researcher to retain the holistic and meaningful characteristics of real-life events (Yin, 1994).

An exploratory case study will be used for this project because the ADS implementation process is in the initial stages at NMCP. Additionally, the implementation process has a defined time period for completion. As such, a qualitative research approach is appropriate since the purpose of this project is to describe events and methods, rather than determine causality (Morse, 1992).

According to Yin (1994), the case study offers the same distinct advantages as a research strategy. These include the establishment of information that may point towards hypotheses formulation, explanation and definition of concepts and variables for further study, and methods for measuring the variables (Yin, 1994). The primary disadvantage of the case study methodology is

the inability to infer findings upon a larger population (Yin, 1994).

This case study will rely upon several resources. These include a comprehensive review of current literature, interviews with NMCP staff members and DoD personnel via phone, face-to-face and surveys, and a comprehensive review of pertinent public and institutional documents.

The research design for this case study will have five components (Yin, 1994): the study's question--how was the ADS implemented at NMCP; its propositions--the implementation of ADS will provide for the collection of accurate data to facilitate analysis of resource utilization and allocation for MCS contracts; its units of analysis--the number of ambulatory encounters, defined as all of the ambulatory care visits delivered at NMCP; the logic linking the data to the propositions--the inability to collect timely, accurate data prevents NMCP from determining the costs of delivering ambulatory services, therefore, evaluation of MCSC contracts for cost-effectiveness is not possible (Edwards, 1996); and the criteria for interpreting the findings--analysis of ambulatory care areas' active implementation and utilization of ADS, analysis of ADS functionality data, and comparative analysis of data as provided by ADS and MEPRS.

Issues regarding the quality of the study must be resolved before the study can become useful. This requirement is always

present, regardless of the appraisal procedure (Whiting, 1995). Validity and reliability must be established as a measure of quality. According to Yin, four tests are common to all social science methods: construct validity, internal validity, external validity, and reliability (Yin, 1994).

Construct validity establishes operational measures for the concepts being studied (Yin, 1994). In this study the operational measure to be used is the number of ambulatory encounters as defined previously. Cost data cannot be utilized since MEPRS does not provide data on the cost of providing services and no system currently provides data on the numbers and types of ambulatory encounters at the clinic level.

Internal validity establishes a causal relationship. As stated by Yin, internal validity is not intended for use in exploratory studies (Yin, 1994) and therefore will not be established in this study.

External validity establishes the domain to which a study's findings can be generalized (Yin, 1994). This study will involve all of the ambulatory care delivery areas of NMCP. Naval Medical Center, Portsmouth is a large multi-service, military, teaching medical facility. Within NMCP's organizational structure, Appendix D, are ten directorates, each affected both directly and indirectly by the provision of ambulatory care. The findings from this study may provide information and guidance for the implementation of ADS at other MTFs of similar size.

Construct and external validity for this case study will be established through empirical evidence gathered from multiple sources. Every effort will be made to use primary documents, which provide for greater validity than secondary sources.

Reliability describes the degree to which the stability of the measurement or certain occurrences can be counted upon for the same results (Yin, 1994). The ability of the researcher to maintain documentation will serve as the basis of reliability for this case study, thereby allowing for duplication of the findings.

CHAPTER 3

RESULTS

The findings from this study, limited because the process is still underway, include: the composition of the Ambulatory Data System Implementation Team (ADSIT), the methodology and procedures utilized by the team, the manpower and resource requirements, and the education and training requirements for the implementation and sustainability of the ADS.

A more indepth analysis of the ADSIT composition, including the location of "ownership" of the team, along with a review of the methodologies used to address problems may facilitate an improvement of the implementation process. Further evaluation is needed of the "ideal" composition of the ADSIT, the alignment of ADS oversight within the organizational structure of the MTF, and the infrastructure requirements for sustainability of the ADS. Additional clarification of clinic processes and the re-engineering of clinic operations to facilitate an increase in efficiency and productivity are essential if the maximum benefit of the ADS are to be realized.

Frequent changes in the implementation deadline and subsequent changes in the implementation schedule presented a tremendous challenge for the team. The inability of the organization to directly control many of the variables associated with the implementation process placed significant stress on the

ADSIT and required flexibility on the part of both the team and the organization.

The ability to identify training and resource requirements, coupled with a defined infrastructure facilitates a smooth implementation process. The constant changes in implementation dates resulted in numerous training schedule changes. Identification of potential problems and the subsequent impact upon the organization provides for an improved and more efficient management response. Problems with the ADS functionality in the training department and the organization as a whole restricted management to a reactive versus proactive posture.

The results from this study may assist in minimizing the impact of the ADS implementation on MTF operations and processes. This can be facilitated through the identification of potential problems related to availability of manpower, finances, equipment, and training resources for the implementation.

The rapid deployment of the ADS throughout the MHSS requires an organized and efficient operation. Ample time to obtain adequate organizational buy-in, develop policies and procedures for the implementation through normal channels, and organize an adequate support infrastructure were not provided.

This resulted in numerous frustrations, communication breakdowns and implementation delays. Perhaps these could have been avoided if a more systematic approach to the implementation process had been employed, particularly senior management buy-in.

As a result, the installation of the ADS should be completed by the required date of 01 SEP 96, but the implementation of the ADS at NMCP will not be achieved.

CHAPTER 4

DISCUSSION

The Ambulatory Data System Implementation Team

This study began with a review of pertinent documentation which established the Ambulatory Data System Steering Committee. This was accomplished by thoroughly reviewing all policy statements and instruction from the OASD(HA), BUMED, and NMCP relating to the implementation of the ADS within the MHSS in general, and NMCP specifically. Following a review of these documents, the project officer for the ADS was interviewed for an assessment of the current status of the implementation process.

At that time of the researcher's arrival at NMCP, the original project officer had transferred out of the command and a new project officer had been assigned to the committee. Documents and notes accumulated by the current project officer were reviewed. There were no records or documentation of prior formal meetings by the ADS Steering Committee.

At the time this research project began, NMCP had four clinics serving as MHSS beta-test sites for the ADS--Allergy, Immunizations, Cardiology, and Gynecology. Because one of the physicians at NMCP had been instrumental in the adoption of the ADS by OASD(HA), NMCP had been selected to prototype the system from its inception. As such, interviews with personnel involved with the beta-test sites were conducted.

The researcher also conducted an extensive literature review on the utilization of information systems in the health care environment, the implementation of information systems, change management, and organizational development. These areas were chosen to provide a basis for comparison to the implementation process at NMCP.

In a policy statement dated 25 JAN 95, the OASD(HA) directed the service Assistant Secretaries to commence collection of ambulatory data in CPT-4 and ICD-9-CM format in FY 1995 (OASD(HA), 1995). This policy statement was followed by a second policy statement from the OASD(HA), dated 15 AUG 95, directing the Deputy Surgeon Generals of each service to implement the ADS in Regions 1, 2, and 5 by April 1996. This deadline was required to facilitate the implementation of the revised financing methodology in those regions(OASD(HA), 1995).

The ADS Steering Committee was initially established in accordance with an October, 1994 command instruction. It is interesting that the instruction makes reference to an OASD(HA) memo dated 30 SEP 93, however, this reference document could not be located at either the command or the OASD(HA).

The ADS Steering Committee's purpose was to provide a forum for discussion and review of current issues and policies regarding the ADS at NMCP. The committee's charge was to serve as a mechanism for discovery, discussion, and resolution of clinic-based problems during the ADS implementation, serve as a

forum for the presentation and discussion of proposals related to the use of the ADS at NMCP, and provide policy recommendations on the courses of action regarding the ADS to the Board of Directors (BOD), Deputy Commander and Commander for review and action (NMCP, 1994).

The committee composition was a cross-representation of all areas of NMCP affected by the ADS. Members were designated by official appointment letters from the Commanding Officer. The original membership was as follows:

- Chairman - ADS Project Officer
- Member - Physician Representative
- Member - Head, Management Information Department
- Member - Resources Directorate Representatives
- Member - Third Party Collection Representative
- Member - Command MEPRS Coordinator
- Member - Head, Patient Administration
- Member - Representative, ASD(HA) EAMS Office
- Member - SAIC Site Manager
- Member - ASD(HA) Contractor Representative
- Member - Branch Clinic Representatives

It is interesting to note that the original committee membership did not have a representative from Nursing Services. The researcher was unable to ascertain whether this was an inadvertent oversight, or that Nursing was not thought to be affected by the ADS.

Over the course of approximately twelve months following the establishment of the ADS Steering Committee, documentation reveals that some energy was expended towards the implementation process. For example, the Project Officer provided briefings to different departments. However, there did not appear to be a concerted command-wide effort. There is not much evidence to indicate significant "buy-in" from the senior management or individual departments, beyond the beta-test clinics, regarding the implementation of the ADS.

The Project Officer for the ADS implementation was assigned to the Director, Managed Care, and as such, the implementation process at that time was assumed to be under the auspices of the Managed Care directorate. During this time period, NMCP was in the midst of tremendous change and transition, including a change of commanders, the implementation of the TRICARE benefits package, and the construction of a new Acute Care Facility to replace the current structure. The Managed Care office was heavily involved in many of these changes and transitions.

In October 1995, concern about "ownership" of the implementation process surfaced in the form of a point paper (Edwards and Marshall, 1996). Following a meeting between the Director for Administration, the Director of Managed Care, and the Director for Resources, the ADS Steering Committee was reorganized into the Ambulatory Data System Implementation Team (ADSIT) and the Chairman of the team shifted from the Managed

Care directorate to the Director for Resources. Membership on the team remained essentially the same with nursing services gaining representation.

Each member received a new letter of appointment from the Commanding Officer and meeting minutes were recorded. It is interesting to note that the ADSIT Team Leader did not have experience in the implementation of a major information system prior to this project. This does not infer incompetence but merely questions leadership placement of the ADS implementation process.

The ADSIT met initially to discuss meeting frequency, times, and location. The need to maintain accurate minutes was identified and initiated. Following the completion of these preliminaries, members were briefed on the urgency and complexity of the task. They were also provided an overview of the key areas of concern regarding the implementation process: (1) installation of the hardware, (2) functionality issues, (3) training requirements, (4) infrastructure requirements, and (5) user acceptance. Each of these key areas of concern were addressed in subsequent weekly meetings.

Methodology and Procedures of the ADS Implementation Team

As stated earlier, the ADSIT met on a weekly basis during the implementation phase. Team members were assigned various tasks, most in accordance with subject matter expertise. The

team did not subscribe to any particular model for the implementation process, but rather, seemed to base its actions and processes on previous project experience for accomplishing the implementation.

The ADSIT initially discussed conducting an assessment survey of the command to determine ADS work sites. A sub-committee was formed to accomplish this task, however, this was not completed. Subsequently, a site survey was completed by the team leader, some team members, and contractor personnel to determine hardware requirements for the command-wide implementation.

The Board of Directors (BOD) was provided an ADS demonstration in one of the beta-test site clinics in efforts to achieve senior management buy-in and support for the implementation and application process. The BOD was made aware that utilization of the ADS was not an option, but mandated by the OASD(HA). However, this mandate required senior-level support from within the command for the ADS to be successful.

The ADSIT requested detailed assessments from the departments which would be most impacted by the implementation of the ADS, specifically, Management Information Department, Staff Education and Training, and Third Party Collections. These assessments were to address the resource requirements of these departments to support the command-wide implementation of the

ADS, as well as the resources necessary to sustain the ADS operations. However, these assessments were not completed.

The ADSIT developed an implementation plan and training plan which underwent several iterations due to changes in dates for implementation, arrival of hardware, etc., all of which were beyond the direct control of NMCP. A phased-implementation plan with sequenced training was selected. This was required due to the physical layout of the hospital compound and the magnitude of the implementation process. A draft of the original implementation and training plan was forwarded to the Naval Medical Information Management Command (NMIMC) for review and approval.

The ADSIT team leader and the physician representative provided regular briefings to the BOD on the status of the ADS implementation process. Additionally, an ADS brief was provided to department heads at one of the monthly Commander's Department Head's meetings.

During the implementation phase, updated versions of the ADS were released by the OASD(HA). With these new versions arrived a multitude of functionality problems--primarily ADS/CHCS connection and printer problems, end-of-day (EOD) processing, and the adhoc reports writer. These issues coupled with unresolved functionality issues from earlier versions resulted in a letter from the command to NMIMC detailing difficulties in advancing the implementation process beyond the original four clinics. The

ADSIT felt that implementation on a command-wide basis should be suspended until functionality issues were resolved.

Site visits by NMIMC personnel were conducted to address functionality questions and training concerns. However, the command was informed that suspension of the implementation process was not an option. The OASD(HA) continued to maintain a position that the ADS would be implemented and functional by the established deadline. It is important to note that this deadline was continually being pushed back from the original date of 01 MAY 95, to the current date of 01 SEP 95.

The ADSIT appeared to become bogged down in the issue of ADS functionality and frustration began to set in. The numerous changes in start dates, the continuous functionality difficulties, and the tepid command support provided ample opportunity for this frustration.

In an effort to address functionality problems and take charge of the implementation process to the extent possible, the BOD requested that the physician representative make a site visit to an Air Force facility which had "successfully" implemented the ADS to search for some answers to local questions. It was reported that while the Air Force facility had "successfully" implemented the ADS, the volume of services provided by this facility was only a small fraction of the volume of NMCP, thus comparisons to NMCP were not feasible or valid.

The ADSIT continued to address functionality issues. The primary methodology chosen was the formation of an ADS User's Group (ADS-UG). This group was comprised primarily of those individuals who were currently using the ADS in their clinics. These same individuals had also been actively involved in the prototyping of the ADS at NMCP and possessed a wealth of experience and knowledge. They were tasked with investigating functionality problems and developing a SOP for the desktop user at the clinic level to assist in the implementation and sustainability of the ADS. Appendix E provides a sample copy of a SOP for one clinic.

Manpower and Resource Requirements

During the initial implementation process, the Project Officer did not have any support staff or additional resources allocated to assist in the implementation process. The reorganization of the ADS Steering Committee into the ADSIT, changed this to some degree.

In its initial meetings, the ADSIT discussed the need to have an individual in each of the clinic areas who possesses some business office management skills/abilities, i.e., coding experience. This would facilitate smoother operations within the clinics, particularly for modifications to clinic operations, patient flow, the ADS encounter forms, etc.

The physician representative on the team was a strong advocate for the creation of a command-level business office for ambulatory care. This issue was discussed numerous times during ADSIT meetings. During interviews he expressed a concern that the absence of a business office would result in the command "floundering and failing" to reach its maximum potential following the implementation of the ADS (Sweeney, 1996). He identified the various components required to make the business office a viable operation.

The business office concept was one of the driving forces behind the ADSIT request to have major departments address resource requirements to sustain the ADS. It was pointed out that without an implementation strategy or plan, it would not be possible to identify actual resource requirements for the implementation and sustainment of the ADS (Gabb, 1996). This master strategy was to be developed, but never came to fruition. This concept is still being discussed but there has not been formal organizational commitment regarding its implementation.

Additionally, there were discussions about the development of "superusers" located in areas where the ADS application servers are located. These individuals would serve as resource personnel for hardware maintenance issues, such as backups, contingency plans, trouble calls, etc.

To meet users needs, MID instituted a telephone access trouble desk to address functionality problems. This service was

expanded to a second phone line to increase accessibility to assistance by users.

A defined plan for the delivery and receipt of the ADS equipment to the clinic level was not developed in advance. The ADSIT held discussions concerning accountability for equipment, receipt controls, etc. for the equipment that was to be shipped to the branch clinics. Similar discussions regarding equipment delivery to the core facility and buildings on the campus were not held.

Assumptions were made that clinic level personnel had been informed of the system in general and preparations had begun for its deployment. This was far from the reality. Clinics did not have individuals identified who would take receipt of the equipment, physical space for the equipment was not identified in many cases, nor was storage room for the equipment to be held during the period between delivery and installation adequately identified. The ADSIT had not developed a policy or procedure in advance for this eventuality.

When notification was received regarding the arrival of the first hardware shipment, two team members were tasked with visiting each clinic to inform them of the equipment's arrival and pending delivery to the clinic. They also made a suitability assessment of the clinic's equipment storage arrangements. It was discovered during this time period that the large majority of clinic-level personnel were unaware of the ADS, its functioning,

capability, requirements, etc. This fact surfaced two weeks prior to arrival and initial installation of the ADS equipment.

The ADSIT was advised of this knowledge deficit, but expressed the opinion that the level of communication regarding the ADS was adequate. It had briefed the BOD every two weeks and "couldn't keep everyone informed". Department Heads would be held accountable for any problems associated with inadequate or insufficient communications and clinic preparations.

The lack of communication concerning the ADS provided ample and fertile breeding grounds for rumor and inaccurate information to be disseminated throughout the command. This situation created some difficulty with the installation process as implementation began. Some clinics were not receptive to the new system, some did not have ample physical areas to house the equipment, and the existence of fear of the system was prevalent. It was painfully obvious that an inadequate command-wide marketing effort had transpired concerning the ADS. Resistance and denial were prevalent.

Education and Training Concerns

The implementation of the ADS requires a tremendous education and training evolution. As with any new system, the necessity to provide adequate and accurate training to all personnel involved is crucial to the success of the system implementation process.

The ADSIT attempted a proactive training posture early on. The team agreed that it was beneficial to obtain control of all training, be proactive, instead of allowing NMIMC or other outside authorities to dictate the training schedules and the training pace. It was felt that inhouse training capabilities were advantageous to NMCP. To this end, the ADSIT tasked the ADS training coordinator with developing a training plan and schedule which would achieve these objectives.

As originally designed by NMIMC, the command was to receive ten ADS workstations for use in the training department in support of command training. Following the initial wave of training, these ten units would be deployed to the remaining clinic areas. This plan was unacceptable to the ADSIT and several areas of concern were discussed.

The first main area of concern was continuous and consistent training--once the initial training cycle was completed and the ten training units deployed, there would not be any resources available to support continual training. This was viewed as a tremendous impediment to the sustainability of the ADS due to the large volume of staff turn-over.

The ADSIT felt that ADS training should be similar to CHCS training. It must be standardized and consistent. It was not considered feasible to have departments provide on-the-job-training.

This issue was addressed to NMIMC. As a result, NMIMC

redesignated the ten training room workstations as training workstations to remain there for training purposes. Additional units would be provided to the clinics to replace the ten training workstations. This change will facilitate a constant and consistent training environment.

The second area of major concern was the ADS training database. Questions concerning the availability of an ADS training database that is capable of interfacing with the current CHCS training database were raised. The ADSIT felt that an ADS training database which did not interface with the current CHCS training database was insufficient. ADS users will utilize the ADS/CHCS interface in the clinics and as such, should be trained in the same manner.

This issue was presented to the NMIMC point of contact for training. To resolve this issue, NMIMC purchased additional equipment which would allow for the ADS/CHCS interface.

A third major area of concern was the sequencing of the training with the installation of equipment at the clinics. The ADSIT felt strongly that the most effective methodology to employ regarding training was to provide training to clinic personnel within two weeks of the clinic receiving the ADS installation.

Based upon these concerns, a training schedule was devised which coincided with the installation sequence. Following receipt of the NMIMC training plan, the local training was finalized and prepared for activation.

Since the training department was to receive ten ADS workstations, it was decided that the installation of the training room would serve as a prototype for the facility-wide installation. Appendix F provides a draft copy of the NMIMC ADS Functional Training Plan, the NMCP response to this training plan from the ADS training coordinator, a copy of the NMCP ADS Training Schedule, an outline of the training modules for the different groups, and the "lessons learned" from the ADS equipment installation in the training department.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this study was to describe the ADS implementation process at NMCP, analyze the implementation process, and present "lessons learned". The primary focus is on the organization of the ADSIT, its role in the implementation process, and the steps taken in that process.

A review of pertinent documentation, observations during meetings and team activities, and interviews with various team members, command personnel, and others associated with the implementation process provided the researcher with an understanding of the team's activities and the effectiveness of its methodologies.

The literature review revealed the significance of information systems in today's health care delivery environment and reveals the organizational benefits derived from information systems. It also identified the benefits associated with and the necessity of planned change. The interviews with team members, command personnel, and others associated with the implementation process provided insight into the many factors connected to such a process.

Together this information is used to draw conclusions regarding the ADS implementation process. These conclusions

provide the foundation for recommendations which could improve the ADS implementation process.

With any major implementation process, the need for senior leadership support can not be overstated. A failure in this arena can doom a project to sure failure. While there was expressed support from the BOD, there was inadequate communication from senior management and the ADSIT to the command at-large. This did not allow for adequate preparation of the command for the transition to the ADS. As such, the importance and urgency of the ADS implementation process was never transmitted and therefore, there has not been "buy-in" to the system.

The workings of the ADSIT demonstrates a lack of cohesiveness and did not develop into, or foster, a feeling of "ownership" by team members. The ADSIT did not demonstrate some of the important and common elements for effective teams and committee as presented in the literature review. Noticeably absent were the elements of encouraging collaboration among all stakeholders, fostering grassroots support, and building an effective communication/information network. A survey, Appendix G, was distributed to randomly selected members of the team. The results indicates that team members are aware of the importance of these elements and noted the absence of these. Additionally, team members judged the ADSIT to be ineffective overall. As

such, this researcher concludes that the ADSIT failed to obtain its maximum effectiveness.

The "short-fuse" nature of this implementation process and the massive size of NMCP appear to have significantly impacted on the ADSIT's effectiveness. Although the team did not select a particular model for change in which to implement the ADS, the urgency of the requirements coupled with the frequent changes in deadlines would probably have hampered any implementation scheme.

The development of the local training capabilities and schedule along with the sequencing of the training and equipment installation have proven effective in the implementation process. Team members feel this has major implications for the success of the ADS implementation.

The ADS-UG continues to develop SOPs for the functional users. Additionally, this group is continually working on functionality problems in attempts to work all of the bugs out of the system.

As a result of the numerous functionality difficulties, full implementation of the ADS at NMCP will not be accomplished as scheduled. Additionally, infrastructure support remains sparse as does command-wide "buy-in". These factors will also contribute to the inability to fully implement the ADS.

Currently the ADSIT is concentrating solely on completing the installation of hardware throughout the facility and the branch clinics. There are still unresolved issues concerning the

installation and activation at contractor facilities which will require resolution beyond the control of NMCP. While these efforts are indeed important, the team should not lose sight of the larger picture.

Once installation and implementation is completed in the current structures, focus must shift to the new Acute Care Facility. The command has initiated planning for the transition to the new facility and the ADS will play a significant role in the concepts of operation in the new facility. As such, the ADSIT must establish a proactive role in guiding this transition.

An enormous amount of attention is focused on the ADS implementation process at NMCP. This is partially due to the fact that NMCP served as a prototype and beta-test site, and partially due the volume of services provided at the facility. The success, or failure, of the ADS implementation at NMCP will have a profound affect on the Managed Care Support Contract for the entire region. And the implementation of the ADS at NMCP will have a tremendous impact on the future of the facility.

Recommendations

The ADSIT has not been effective to date in the current implementation process. It has been a painstakingly frustrating experience, and many challenges lie ahead. It is essential that the team develops a systems approach. The team must revisit its

stated purpose and refocus its energies on the entire spectrum of its purpose and not get bogged down in any one element.

The implementation of the ADS has systemic ramifications locally and for the entire MHSS. It is imperative that the ADSIT develop an improved information sharing and communication network. This will facilitate the development of a grassroots-level knowledge and buy-in to the ADS. The very design of the system demonstrates that the success or failure of the system will depend upon the ability of the users at the clinic level. This will require a sincere buy-in to the system by these individuals. Additionally, as the system becomes operational, the communication network can provide valuable insights to the benefits of the system, thereby enhancing each clinical area's efficiency, productivity, and effectiveness.

As stated by Marcinko (1995), dissemination of information to all levels of the organization will enhance their knowledge of the system and foster stronger commitment and support for the implementation process. To facilitate this process the ADSIT should institute regular articles to the hospital newspaper, the electronic mail, and command briefings. An active marketing effort is essential to the success of this endeavor.

The implementation process must begin with a clear delineation of ownership of the process. The ownership must be based upon the infrastructure design of the organization and not driven by political motives. This will require a shift in

thinking from the traditional stovepipe mentality to a more systems-oriented approach. The concept of a business office for ambulatory care should be explored further to determine the necessary resources. These resources should be provided and the concept implemented. This will assure a continuity and consistency of operations in the ambulatory arena and provide a systems approach to business operations.

The ADSIT must continue to press the chain-of-command to ensure the functionality of the ADS. All the marketing efforts in the world will fail if the system fails. There are numerous studies of federal government projects which are failures due to poor design, inaccurate or incomplete data, delivered incomplete, late or over budget (Anthes, 1992).

There should be a delegation of responsibilities according to identified tasks, i.e., receipt and delivery of hardware to clinic areas, functional problems assistance, operational supplies, etc. This will require the development of a master plan early on. This plan should consider the uniqueness of the organization, resources available, and requirements of the system.

The importance of top management support early on cannot be overstated. Management backing ensures sufficient funding and resources for success (Laudon and Laudon, 1994). If top management buy-in is achieved, the likelihood of success is greatly enhanced.

As the MHSS moves aggressively into the managed care arena and capitation financing, the importance of the ADS will become more paramount. A solid foundation for success is directly related to the success of the ADS implementation process, and this is driven by the functioning of the ADSIT and senior leadership support.

This study is limited to the functioning of the ADSIT in its early stages. The complete implementation process is complex and extremely challenging. Further study of the ADSIT is required to make a determination as to its overall effectiveness in achieving its stated purpose.

APPENDIX A

THE TRICARE PROGRAM IMPLEMENTATION

Overview

TRICARE is the Department of Defense (DoD) regional managed care program for active duty personnel, and all other individuals eligible for care within the Military Health Services System (MHSS). This program is a DoD effort to consolidate the health care delivery systems of the military services and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) in a cooperative and supportive effort. This coordinated effort is designed to improve healthcare services to the DoD beneficiary population and improve the utilization of military medicine resources (BUMED, 1996).

The design of TRICARE provides for the division of the United States into twelve Regions, each administered by a Lead Agent (LA). The LA is responsible for the development of an integrated plan for health services delivery to beneficiaries within the Region. This plan is being developed in collaboration with all Military Treatment Facility (MTF) commanders in the Region.

The Office of the Secretary, DoD, issued a final rule establishing requirements and procedures for the implementation of the TRICARE Program in July 1995 (Federal Register, 1995). This final ruling establishes a comprehensive enrollment system,

creates a triple option benefit, establishes a series of initiatives to coordinate care between military and civilian delivery systems, and creates a consolidated schedule of charges (Federal Register, 1995).

The purpose of establishing the TRICARE Program is to implement a comprehensive managed health care program for the delivery and financing of health care services in the MHSS. This implementation features management improvements primarily through managed care support contracts (MCSC) which include special arrangements with civilian sector health care providers and better coordination between MTFs and these civilian providers (Federal Register, 1995).

The TRICARE Program is applicable to all of the uniformed services and is applicable geographically in all fifty states and the District of Columbia. The Program is not automatically implemented in all regions. Due to the complexity and size of the MHSS and magnitude of change associated with implementing a program of this type, TRICARE implementation is being phased in over a period of several years (Federal Registry, 1995).

The TRICARE Program provides four major features: (1) a comprehensive enrollment system; (2) a triple option benefit; (3) coordination between military and civilian health care delivery systems; and (4) a consolidated schedule of charges. These features combine to provide a comprehensive managed health care delivery system composed of MTFs and CHAMPUS. Each of these

features will be described in general below. Complete and specific details pertaining to each feature is provided in the Final Rule document (Federal Register, 1995).

Comprehensive Enrollment System

All health care beneficiaries are classified into one of five enrollment categories:

(1) Active Duty members--all are automatically enrolled in TRICARE Prime;

(2) TRICARE Prime enrollees--all must be CHAMPUS-eligible (except for active duty members);

(3) TRICARE Standard eligible beneficiaries--covers all CHAMPUS-eligible beneficiaries not enrolled in TRICARE Prime or another managed care program affiliated with TRICARE;

(4) Medicare-eligible beneficiaries--although not TRICARE Prime eligible, are allowed to participate in many TRICARE features; and,

(5) Participants in other managed care programs affiliated with TRICARE, once such affiliations are made

Triple-Option Benefit

TRICARE offers three choices for their health care delivery: TRICARE Standard, TRICARE Extra, and TRICARE Prime. From these options, beneficiaries are allowed to select one. All active duty members are automatically enrolled in the HMO option.

TRICARE Standard is a fee-for-service option that is the same as standard CHAMPUS. All of the rules, procedures and regulations of standard CHAMPUS are applicable which include deductibles and co-payments. There is not an enrollment requirement or the need to choose a primary care provider. In association with the virtually unlimited selection of doctors and hospitals are higher out-of-pocket expense than the other two options (BUMED, 1996). Beneficiaries choosing this option continue to be eligible for care in MTFs on a space-available basis (Federal Register, 1995).

TRICARE Extra, offers a preferred provider option with discounts. In this option, CHAMPUS-eligible beneficiaries use a preferred network provider and receive an out-of-pocket discount. Additionally, the beneficiary usually will not have to file any claim forms. CHAMPUS beneficiaries do not enroll in TRICARE Extra, but have the option of participating in this option on a case-by-case basis. This option is exercised merely by using a network provider (BUMED, 1996). These beneficiaries also maintain eligibility for MTF care on a space-available basis (Federal Registry, 1995).

TRICARE Prime, is the voluntary enrollment (except for active duty personnel as stated above) health maintenance organization (HMO) option. This option offers patients the advantages of managed health care, such as primary care managers, assistance in making specialty appointments, and the benefit of

not filing any claim forms. The Prime option offers the scope of coverage available today under CHAMPUS, plus additional preventive and primary care services (BUMED, 1996).

Beneficiaries generally agree to use MTFs and/or designated civilian provider networks (Federal Register, 1995).

For Prime enrollees, the new cost sharing provisions eliminate the usual standard CHAMPUS cost sharing. Of particular note, families of active duty personnel have no enrollment fees. CHAMPUS-eligible retirees and their families who enroll in Prime will pay an enrollment fee of \$230 for an individual and \$460 for the family. However, there is no additional deductible requirements to be met. Additionally, retirees and their families will pay only \$11 per day for civilian inpatient care, compared to the \$323 per day plus 25% of professional fees charge faced by those retirees using TRICARE Standard.

For Prime enrollees there will be copayments for care received from civilian providers. These copayments are significantly less than the other two options. Enrollees in TRICARE Prime obtain most of their care within the integrated military and civilian network of TRICARE providers. Additionally, under a new point-of-service option, Prime enrollees may retain freedom of choice to use non-network providers, but a significantly higher cost-sharing than TRICARE Standard.

The cost sharing provisions for TRICARE Prime enrollment meet the statutory requirements of the National Defense Authorization Act for FY 1994. These new Prime cost-sharing provisions and the effects of the implementation of TRICARE Prime will be evaluated and documented annually.

Coordination Between Military and Civilian Health Care Delivery Systems

A series of activities (Federal Register, 1995) affecting all beneficiary categories have been incorporated into the TRICARE Program to improve the coordination of care between military and civilian care systems. These activities include:

(1) Resource Sharing Agreements through which the TRICARE contractor provides personnel and other resources to the MTF allowing for increased availability of services in the facility;

(2) Health Care Finders, and administrative activity facilitating referrals to appropriate health care services in the MTF and civilian provider network;

(3) Integrated quality assurance and utilization management services with an objective of standardizing the review process for both military and civilian providers; and,

(4) Special pharmacy programs for base realignment and closure areas (BRAC);

Consolidated Schedule of Charges

This feature incorporates revisions to the fee schedule which reduce the differences in charges between military and civilian services. In general, the TRICARE Program provides for a reduction in out-of-pocket costs for the civilian sector.

The TRICARE Program is continually evolving and faces new challenges almost daily. As change is constant, so will be the methodologies and initiatives involved in the implementation of TRICARE. The Office of the Assistant Secretary of Defense-Health Affairs is continuing its push for the full implementation of TRICARE Program contracts prior to the end of the Fiscal Year 1996 deadline (OASD-HA, 1994).

APPENDIX B

MEDICAL EXPENSE and PERFORMANCE REPORTING SYSTEM (MEPRS)

The need for a uniform data system within the Military Health Services System (MHSS) became evident in the mid-1980s. Prior to that time, personnel recording data was maintained by two separate systems-- 1) the Uniform Chart of Accounts (UCA) system, developed and implemented to track expenses within the military healthcare facilities, and 2) the Uniform Staffing Methodologies (USM), concerned with manpower resources.

The UCA was developed following a joint study in August 1973 by the Office of Management and Budget, the Department of Defense (DoD), and the Department of Health, Education, and Welfare. This study grew from concerns about the anticipated physician shortages associated with the end of the draft, the increased overhead and support costs throughout DoD, the quality of systems for planning, management, and evaluation, and the social equity of military medical care and its compatibility with national healthcare objectives. Recommendations from this study were submitted for a more effective and efficient delivery of military health care services by Continental United States (CONUS) fixed medical facilities during peacetime (DoD, 1986).

Among the specific findings reported in the study were: 1) separate and independent information systems and data bases were being maintained by each service, 2) common data element

definitions were being interpreted differently, 3) definitional problems, inconsistencies, and noncomparable inputs provided three divergent output modes, and 4) therefore, valid comparisons of systems operations could not be made (DoD, 1986).

The development of the UCA took into consideration the accounting and reporting systems in place and functioning within each military service. Additionally other differences, e.g., size, mission, fiscal and financial structure, etc., were also considered. With these considerations in place, three components to an integrated military accounting and reporting system were deemed essential: 1) Uniform Chart of Accounts, 2) Performance Measurement, and 3) Reporting (DoD, 1986).

The development and implementation of the USM evolved from Congress' desire for the ability to compare medical manpower determinants and costs of the military services. In 1974 and 1976, the House Appropriations Committee recommended the DoD develop and use uniform standards in determining medical manpower requirements (DoD, 1986).

Following these recommendations, Office of the Assistant Secretary of Defense for Health Affairs (OASD-HA), developed a working paper outlining the means by which a uniform staffing methodology could be achieved (DoD, 1986). A working group was formed and the development of a uniform medical manpower reporting system was begun. Through utilization of a common methodological basis, the three military services used a uniform

scientifically derived tool for determining, budgeting, defending, and allocating basic requirements (DoD, 1986).

Once the need to consolidate these two systems was identified, Tri-Service manpower and comptroller personnel, in conjunction with and direction from OASD-HA, began to merge the two systems. In the Fall of 1985, the merger was completed and the Manpower and Expense Reporting System (MEPRS) Manual became mandatory for use by all DoD components. The MEPRS was effective commencing with the processing of first quarter fiscal year 1986 expense and performance data (DoD, 1986).

The Medical Expense and Performance Reporting System (MEPRS) was developed to provide the Department of Defense (DoD) Medical Operations with consistent principles, standards, policies, definitions, and requirements for accounting and reporting of expense, manpower, and performance by DoD fixed military medical facilities. Additionally, MEPRS provides, in detail, uniform performance indicators, work center-level classification of common expenses, work center-level uniform reporting of personnel utilization data, and a cost assignment methodology. The MEPRS establishes a uniform reporting methodology, providing consistent financial and operational performance data, to assist health care managers responsible for health care delivery in fixed military medical systems (DoD, 1986).

The MEPRS gathers reported information from fixed medical treatment facilities in a standard format. This is accomplished

by MEPRS defining a set of functional work centers, applying a uniform performance measurement system, and prescribing a cost assignment methodology (DoD, 1986).

APPENDIX C

AN OVERVIEW OF THE AMBULATORY DATA SYSTEM (ADS)

AMBULATORY DATA SYSTEM (ADS)

OVERVIEW

What Is It Anyway?

- ♦ Forms based tool which collects & reports data at ICD-9-CM & CPT-4 level
 - ✓ “Apples to apples” comparison to civilian counterparts
 - ✓ Augments MEPRS as source for clinical workload data
 - ✓ Uses optical mark recognition (OMR) technology
- ♦ Encounter forms are specific to each clinic ***Product Line***
- ♦ Once marked by the provider the forms are scanned into system; & data is immediately available for retrieval

Primary Objectives

- ♦ Accuracy in collection & reporting of workload data
- ♦ Business process improvements through streamlined administrative procedures
- ♦ Tool for clinic heads to track clinic practice patterns
- ♦ Meet Residency Review Committee (RRC) requirements relating to provider practice history
- ♦ Baseline data set supporting outcome based research

Accuracy in Collection & Reporting

- ♦ Uniformly collects data at ICD-9-CM & CPT-4 level
- ♦ Codes are based on actual clinical practice patterns
- ♦ Erroneous coding minimized by developing encounter forms specific to the clinical product line

Business Process Improvements

- ◆ ADS will challenge current patient & process flows
- ◆ Patient no longer has to fill out an encounter form
 - ✓ Demographic data downloaded from CHCS
 - ✓ Automatic preprint of encounter form occurs each night for all scheduled visits
 - ✓ Patient only needs to verify demographic data on form
- ◆ Becomes single collection tool for Third Party Collections & workload data
- ◆ Readily available clinic history for individual patients

Tracking Clinic Practice Patterns

- ◆ Diagnosis & procedure reports by Provider & Patient
- ◆ For any given time period clinic heads will know:
 - ✓ Appointment Types, Patient Encounter, and Patient Categories by Provider
 - ✓ Each Diagnosis & Procedure on a clinic-wide basis
 - ✓ Each Diagnosis & Procedures on a per provider basis

Meeting RRC Requirements

- ♦ By provider & patient each diagnosis & procedure performed in the clinic
- ♦ A historical picture of exactly what a provider has done during the specific time frames desired

Outcome Based Research

- ◆ Compiles patient history by diagnosis & procedure
- ◆ Provides for easy extraction of that data

General Information

- ♦ Walk-ins processed the same as scheduled appointments
 - ✓ Encounter form printed when patient presents
 - ✓ Process takes < 1 minute
- ♦ Adding/Deleting/Changing codes on encounter form
 - ✓ simple and done at the clinic level
 - ✓ changes appear on next encounter form printed
- ♦ PCs replace CHCS terminal at check-in/check-out desk
- ♦ Interim system until CHCS performs same function (FY-98)

Implementation

- ◆ Clinics Currently Online:
 - ✓ Allergy (Prototype clinic)
 - ✓ Cardiology
 - ✓ Gynecology
 - ✓ Obstetrics
- ◆ Implementation Schedule (Starting 10 June 96)
 - ✓ Building 215
 - ✓ Building 1
 - ✓ Outlying Clinics (Boone, Oceana, Sewells)

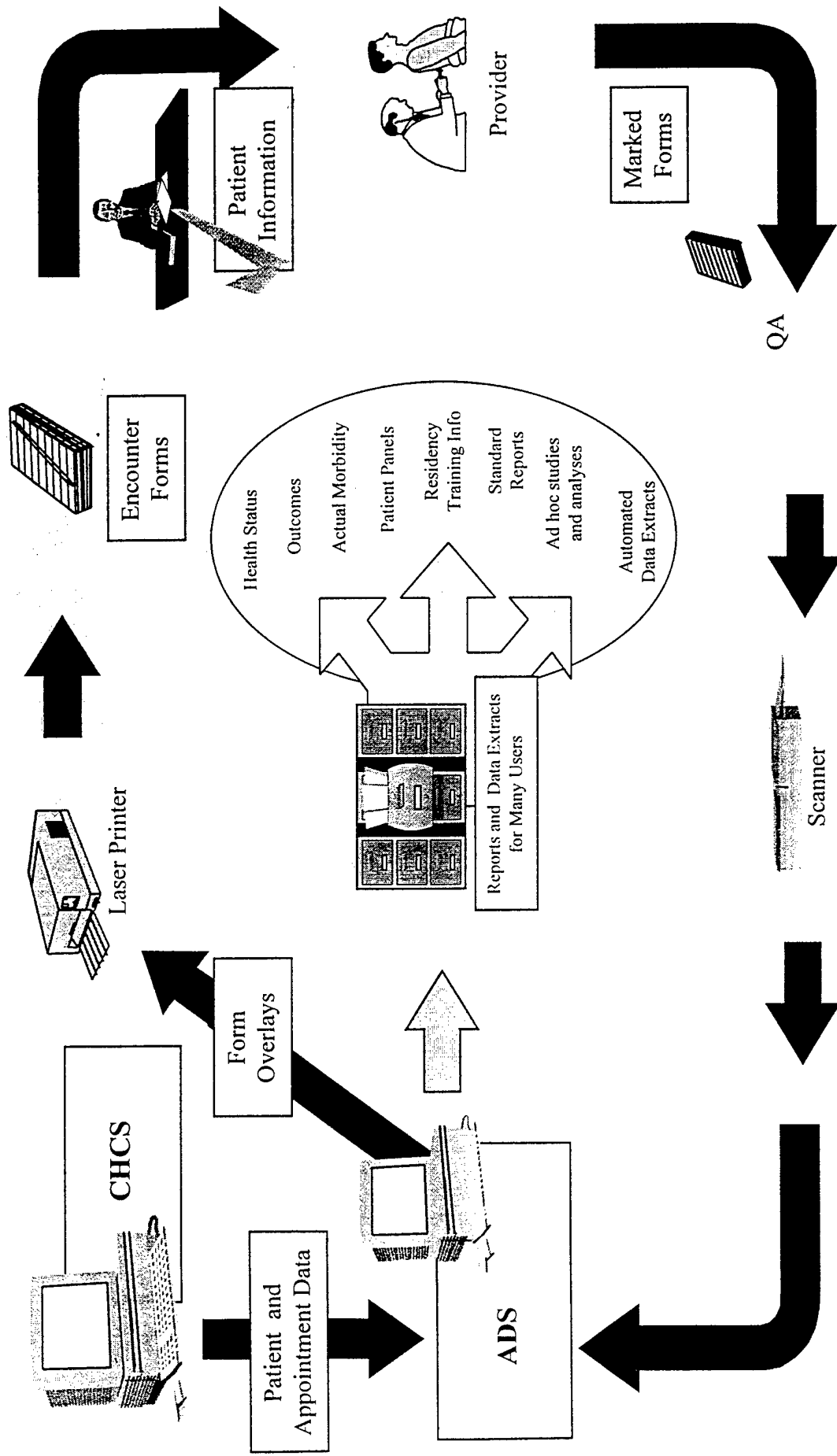
ADS Architecture

- ♦ MHSS infrastructure for data communications
 - ✓ TCP/IP
 - ✓ 10Base-T Ethernet/Fiber/T-1 lines
- ♦ Pentium processors at server level
- ♦ 486/66 (17" monitor) and printers at workstation level
- ♦ Scanners located with application servers

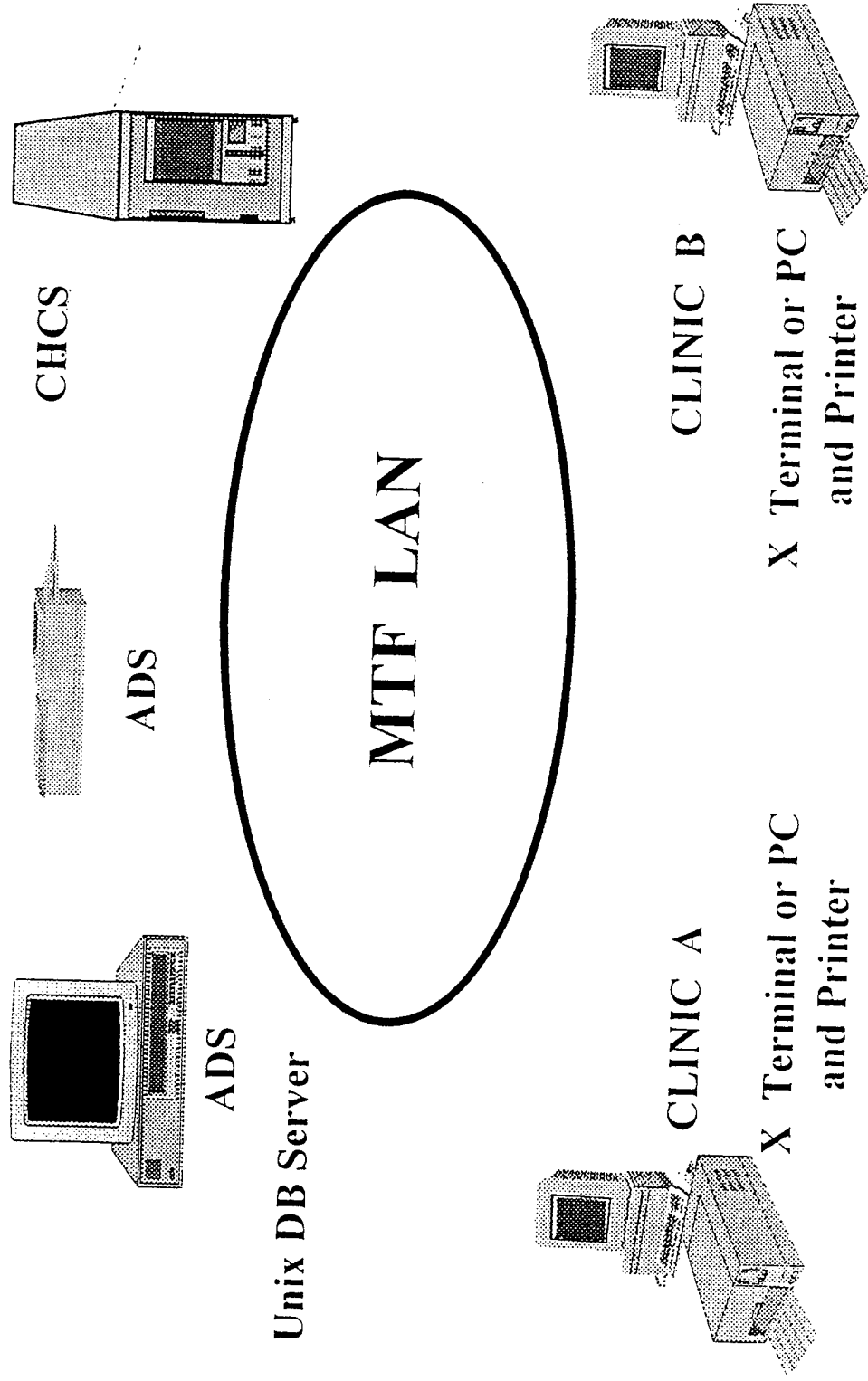
ADS Form Generation

- ◆ Scheduled Appointment
 - ✓ Download from CHCS nightly (0200)
 - ✓ Patient demographic & appointment type info
 - ✓ ADS demographic data updated for those patients
 - ✓ Encounter forms printed in clinic for all scheduled appointments
- ◆ Walk-in
 - ✓ Demographic info used from ADS database, if not correct CHCS must be updated & interactive download must be done to correct info on ADS encounter form
 - ✓ ADS demographic data updated from interactive download

ADS Functional Architecture



ADS Technical Architecture



Overview of ADS Process in Clinic

- ◆ Retrieves patient demographics, scheduled appointments from CHCS - Information printed on form for patient & staff review
- ◆ Form is marked by provider
- ◆ Forms collected, scanned in central location
- ◆ Reports available to clinic for use by providers



HEALTH AFFAIRS

ADS Functional Flow

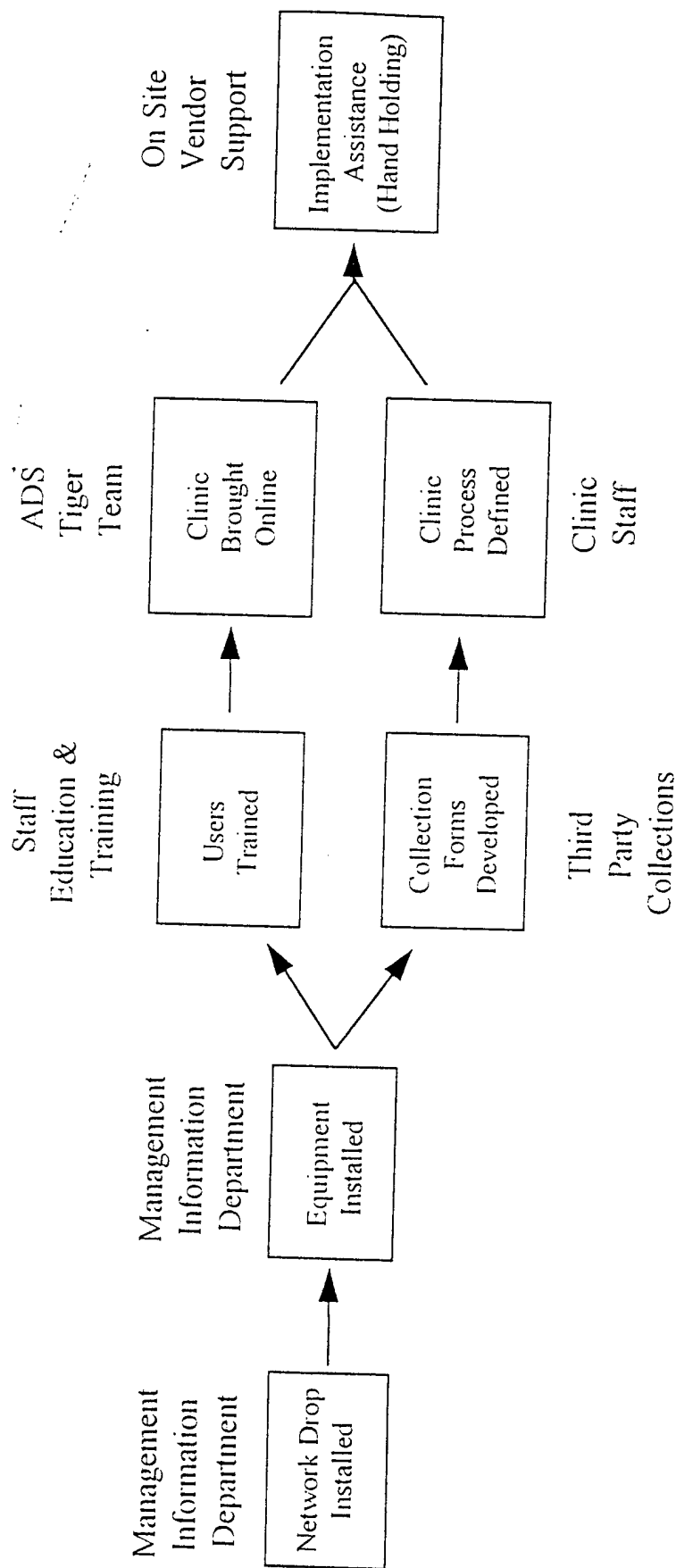
- ☐ CHCS nightly appointment batch download
- ☐ Tailored encounter forms printed
- ☐ Check-in process
- ☐ Provider/patient encounter
- ☐ Administrative review
- ☐ Forms scanned in
- ☐ Appointment information available online
- ☐ Patient date reporting
 - ☐ Standard
 - ☐ Ad hoc
 - ☐ CEIS
 - ☐ TPC

ADS Functional Procedures

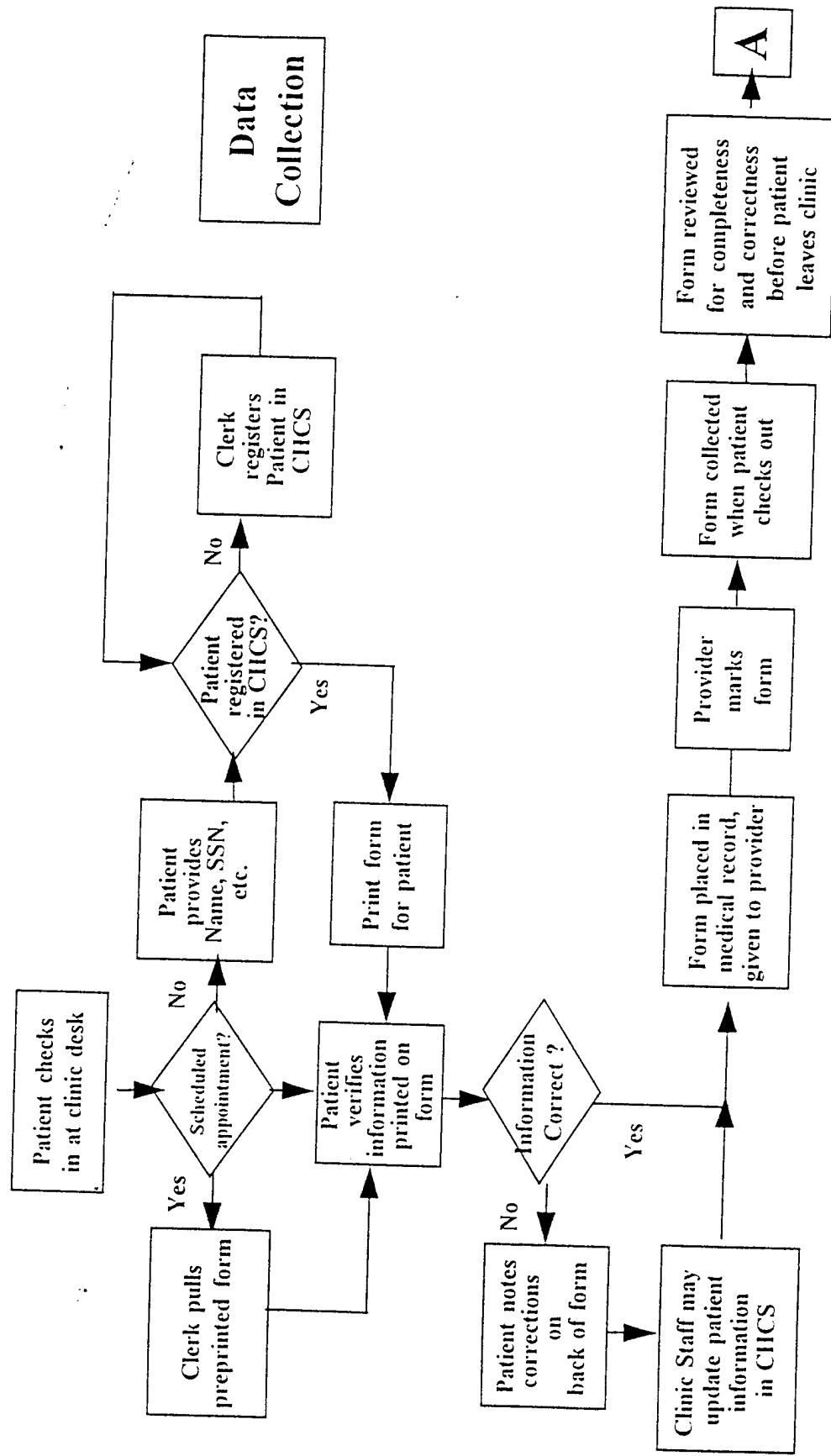
- ◆ Forms are printed at the Clinic
- ◆ Scheduled Appointments are printed overnight
- ◆ Walk-ins are printed at time of check-in
- ◆ Patient verifies personal information at check-in
- ◆ Form given to provider with medical record.

ADS Data Collection Process

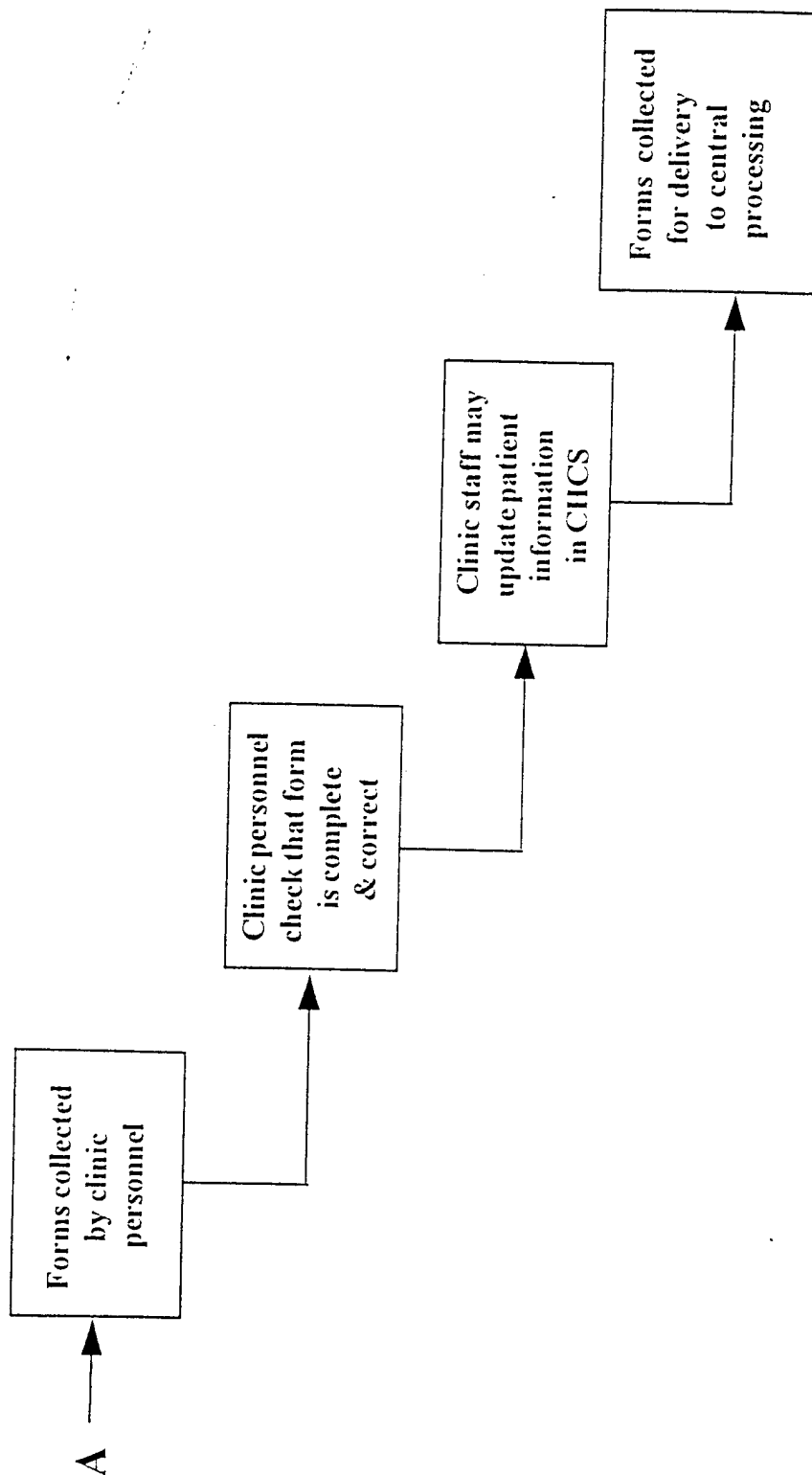
Implementation Dependencies



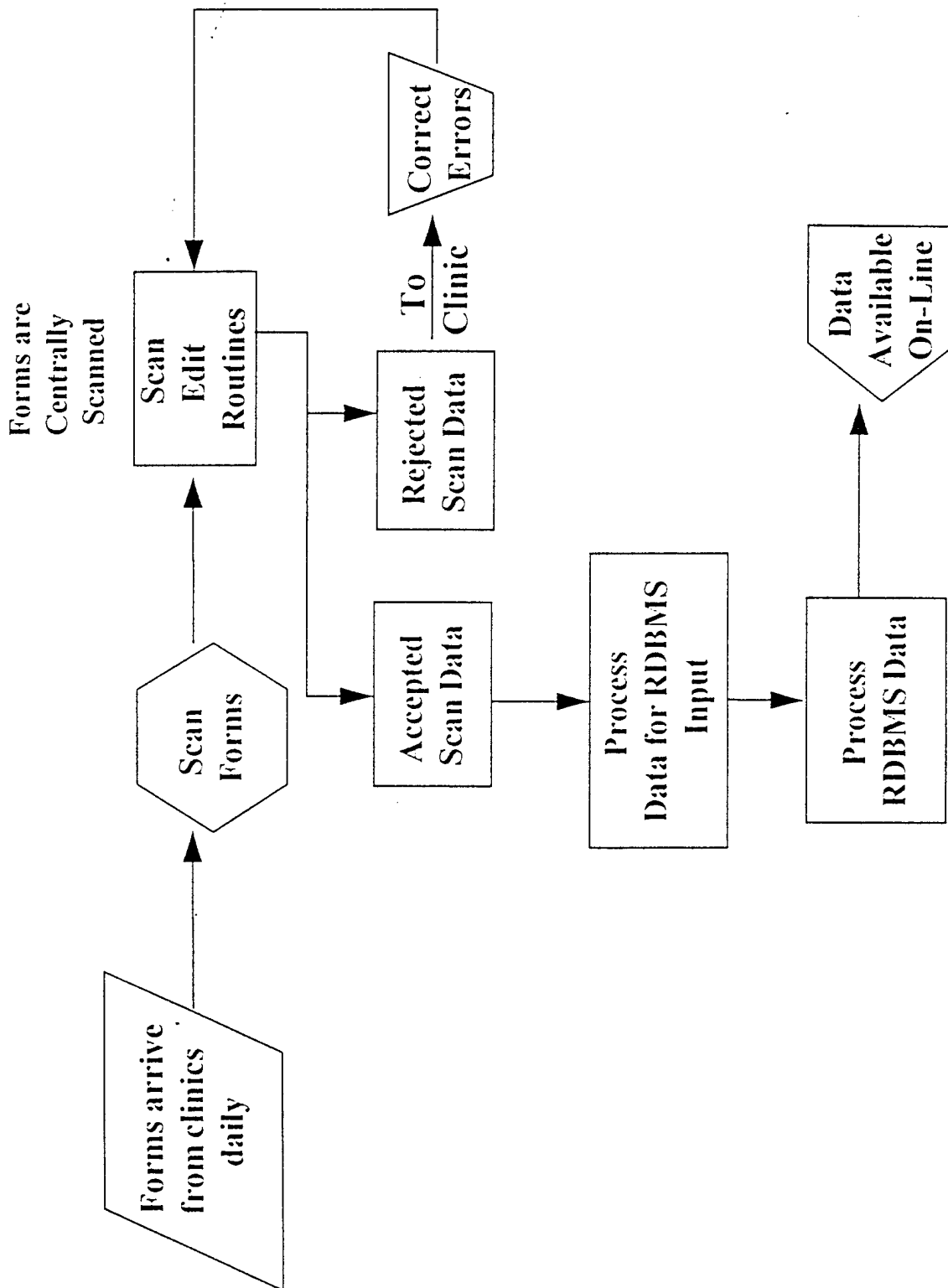
ADS Data Collection Process



ADS Data Collection Process (Cont'd)



Processing Populated Forms



Guidelines for Clinic Administrators

- ◆ **Setting Up Clinic Processes**
- ◆ **Organizing clinic practice, defining subclinics**
- ◆ **Setting up clinic business processes**
- ◆ **Using CHCS Patient Appointments and Scheduling**
- ◆ **Mid will enter eligible providers in CHCS Provider file. (Eventually this will be done by Credentialling)**

Guidelines for Clinic Administrators

- ♦ **Morning and end-of-day tasks**
 - ✓ **Check forms printed overnight for scheduled patients**
 - ✓ **Gather forms, sort by work center, send to scanning location**
 - ✓ **Load printer with blank forms**

Guidelines for Clinic Administrators

♦ Centralized Scanning Procedures

Guidelines for Clinic Administrators

Morning and end-of-day tasks (Cont'd)

- ◆ **Patient check-in and check-out**
- ◆ **Maintaining supporting information in CHCS**
 - ✓ **CHCS Appointments**
 - ✓ **Put new eligible providers into CHCS**
(You cannot enter generic Providers)

Required Business Procedures

Describe Each Clinic's Practice (Providers & Clinic Manager/Forms Manager)

- ◆ Providers must determine common diagnoses and procedures performed within the clinic
- ◆ Up to 60 diagnoses (ICD-9-CM) & 64 procedures (CPT) may be put on form
- ◆ If additional diagnoses and procedures are required than create additional forms to correspond to sub-specialties and sub-clinics

Required Business Procedures

Scheduling by Appointment Type in CHCS (Clinic Manager)

- ◆ Use CHCS Appointment Types to schedule patients to the identified sub-specialties or sub-clinics.
 - ✓ This ensures the proper form is printed for each encounter
- ◆ Educate providers, staff, and appointment clerks in the proper use of your clinic's appointment types

Required Business Procedures

Scheduling by Appointment Type

in CHCS (Cont'd)

(Clinic Manager)

- ◆ Create the minimum number of forms needed to reflect clinic practice
- ◆ Designate a default form. This should be the form required for most appointments

Required Business Procedures

Gynecology Clinic Appointment Type (Example)

Appointment Type Code	Form Printed
<ul style="list-style-type: none"> • ACUTE • BTLC • CONSC • IIS • MED • PAP • PRE-E 	<p>General Gynecology Clinic</p> <p>This is a default form—it is printed when the appointment type is unknown or not specified</p>
<ul style="list-style-type: none"> • COLPR • LEEP • TBC • TBP 	<p>Special Gynecology Clinic</p>
<ul style="list-style-type: none"> • E+I-F • E+I-N • HSG • PRE-I • RG 	<p>Endocrinology and Infertility Clinic</p>

Required Business Procedures

Provider Enrollment

- ◆ SSN of any person designated primary or secondary provider must be registered in CHCS provider file
 - ✓ This includes all nurses, techs, etc.
- ◆ Provider numbers not known to ADS (via CHCS) are assumed incorrect - form returned to clinic

Morning/Daily Tasks

- ◆ Check forms printed overnight against list of clinic's scheduled appointments from CHCS
- ◆ If no forms printed:
 - ✓ Check to see if printer is on
 - ✓ Check for forms in paper tray
 - ✓ Call The Help Desk (398-7200) to Log a trouble call
- ◆ Review forms returned to clinic for correction and distribute to appropriate individuals

End-of-Day Tasks

- ◆ Gather all forms and group by work center
- ◆ Mark forms for Canceled or No-show appointments
- ◆ Quickly review all encounter forms for provider signature/name stamp
- ◆ Separate Active Duty Members forms
- ◆ Place forms in envelope and clearly label with clinic name and date and forward the forms to the Third Party Collections Office in Building 250 on at NMC Portsmouth

End-of-Day Tasks (Cont'd)

- ◆ Test form alignment of printer
- ◆ Load printer with enough blank forms for next day's scheduled appointments
- ◆ Log off of ADS and shut off terminal but leave printer ON

What Needs to Be Marked at Check-in

- ◆ *Appointment Status.* Mark only one. Mark Appointment Scheduled only when patient arrives
- ◆ *Personal Information.* Patient must verify. If their personal information has changed, have them write in the information on the back

What Needs to Be Marked at Check-in (Cont'd)

- ◆ Insurance. Always ask patient to mark Yes or No for other health insurance. If Yes, review insurance information on front.
- ◆ Signature & Date. Always have the patient sign and date the form.
- ◆ Disposition. Mark "Left Without Being Seen" if true, otherwise let provider mark

Checking the Form Over At Check-out

- ◆ Did patient sign & date form?
- ◆ Did patient check Yes or No for insurance?
 - ✓ If Yes, make sure changes are indicated
- ◆ Appointment Status
- ◆ Is this a work/job related injury?
 - ✓ If Yes, make sure onset date is entered
- ◆ Diagnoses. Should be at least one marked if patient was seen. Cannot be a 2 without a P; Cannot be a 3 without a 2, etc.
 - ✓ If not marked on the front the diagnostic description must be written in on the back

Checking the Form Over At Checkout

- ♦ Procedures. There should be at least one marked ✓ If not marked on the front the procedure description must be written in on the back
- ♦ New Primary Provider. Include New Primary Providers or Secondary Providers on back of form and make their information filled in properly
- ♦ Provider Signature. Make sure provider signature and name stamp are on back of form

This form is subject to the Privacy Act of 1974.

AMBULATORY ENCOUNTER SUMMARY

ICD-9-CM DIAGNOSES

989.5	Allergic React/Bee	1	2	3	4	U	692.1	Derma-Eczema/Graae	1	2	3	4	U
995.2	Allergic React/Drugs	1	2	3	4	U	692.6	Derma-Eczema/Plants	1	2	3	4	U
995.3	Allergic Reaction	1	2	3	4	U	692.2	Derma-Eczema/Solvent	1	2	3	4	U
477.8	Allergic Rhinitis/Other	1	2	3	4	U	492.8	Emphysema	1	2	3	4	U
477.0	Allergic Rhinitis/Pollen	1	2	3	4	U	V15.0	History of Allergies	1	2	3	4	U
995.0	Anaphylactic Shock	1	2	3	4	U	279.2	Hyperimmunoglobulinemia	1	2	3	4	U
995.1	Angioedema	1	2	3	4	U	279.00	Hypogammaglobulinemia	1	2	3	4	U
493.20	Asthma/Chronic Obstruc	1	2	3	4	U	279.3	Immunodeficiency	1	2	3	4	U
493.00	Asthma/Extrinsic	1	2	3	4	U	465.0	Laryngopharynx/Acute	1	2	3	4	U
493.10	Asthma/Intrinsic	1	2	3	4	U	272.7	Lipoidosis/Niemann-Pick	1	2	3	4	U
334.8	Ataxia/Hypocretasia	1	2	3	4	U	272.2	Mixed, Hyperlipidemia	1	2	3	4	U
691.8	Atopic Dermatitis	1	2	3	4	U	V07.2	Prophylactic Immunotherapy	1	2	3	4	U
466.1	Bronchiolitis Acute	1	2	3	4	U	518.3	Pulmonary Eosinophil	1	2	3	4	U
466.0	Bronchitis/Acute	1	2	3	4	U	071	Rabies	1	2	3	4	U
491.0	Bronchitis/Chronic Simple	1	2	3	4	U	518.82	Resp Distress/Acute	1	2	3	4	U
692.9	Derma Contact/Eczema	1	2	3	4	U	518.81	Respiratory Failure	1	2	3	4	U
692.4	Derma-Eczema/Chemical	1	2	3	4	U	473.8	Sinusitis/Chronic	1	2	3	4	U
692.0	Derma-Eczema/Detergent	1	2	3	4	U	473.1	Sinusitis/Frontal	1	2	3	4	U
692.3	Derma-Eczema/Drugs	1	2	3	4	U	473.0	Sinusitis/Maxillary	1	2	3	4	U
693.1	Derma-Eczema/Food	1	2	3	4	U	708.0	Urticaria	1	2	3	4	U

EVALUATION AND MANAGEMENT

99244	Consult Comp/Modera	1	2	3	4	U	99211	Est Minimal	1	2	3	4	U	99245	New/Est Comp/Ht Comp	1	2	3	4	U
99243	Consult Detailed/Low	1	2	3	4	U	99212	Est Problem Focused	1	2	3	4	U	99373	Phone Complex/Length	1	2	3	4	U
99242	Consult Expand Prob	1	2	3	4	U	99205	New Compri/Complex Ex	1	2	3	4	U	99372	Phone Intermediate	1	2	3	4	U
99241	Consult Prob Focused	1	2	3	4	U	99204	New Comprehensive Ex	1	2	3	4	U	99371	Phone Simple/Brief	1	2	3	4	U
99215	Est Comp/High Comple	1	2	3	4	U	99203	New Detailed Exam	1	2	3	4	U							
99214	Est Detailed/Moderat	1	2	3	4	U	99202	New Expanded Problem	1	2	3	4	U							
99213	Est Expanded/Low Com	1	2	3	4	U	99201	New Problem Focused	1	2	3	4	U							

CPT PROCEDURES

86038	ANA	1	2	3	4	U	95004	Prick Aeroallergen	1	2	3	4	U
95144	Allergy Antigen 1 Vi	1	2	3	4	U	95010	Prick Venom/Drug	1	2	3	4	U
95165	Allergy Antigen Dose	1	2	3	4	U	94010	Pulmonary Function	1	2	3	4	U
95115	Allergy Injection X1	1	2	3	4	U	86430	RF	1	2	3	4	U
95117	Allergy Injection X2	1	2	3	4	U	86592	RPR	1	2	3	4	U
86651	Antibod/Encephalitis	1	2	3	4	U	86003	Rast Panel	1	2	3	4	U
86160	C3, C4	1	2	3	4	U	80012	SMA 12	1	2	3	4	U
85022	CBC	1	2	3	4	U	80006	SMA 6	1	2	3	4	U
85023	CBC, Automated Diff	1	2	3	4	U	85651	Sedimentation Rate	1	2	3	4	U
85025	CBC, Comp Diff	1	2	3	4	U	76080	Sinus Xray	1	2	3	4	U
71020	Chest Xray	1	2	3	4	U	86586	Skin Test/Anergy, Ea	1	2	3	4	U
95028	Delay Hypersensitivity	1	2	3	4	U	95130	Sting Insect Venom 1	1	2	3	4	U
95017	End Point Titration	1	2	3	4	U	95131	Sting Insect Venom 2	1	2	3	4	U
95015	ID Venom/Insect	1	2	3	4	U	95132	Sting Insect Venom 3	1	2	3	4	U
85024	ID/Aeroallergen	1	2	3	4	U	95133	Sting Insect Venom 4	1	2	3	4	U
95120	Injection & Antigen X1	1	2	3	4	U	95134	Sting Insect Venom 5	1	2	3	4	U
95125	Injection & Antigen X2+	1	2	3	4	U	87060	Throat/Nose Culture	1	2	3	4	U
95170	Insect Whole Bod Ext	1	2	3	4	U	95145	Venom: Single Venom	1	2	3	4	U
80176	Lidocaine	1	2	3	4	U	95147	Venom: Three Insect	1	2	3	4	U
94640	Nebulizer Therapy	1	2	3	4	U							

FOR CLINIC USE ONLY

DISPOSITION (Unless Inpatient)

- ☐ Released without limitations
- ☐ Released w/work/duty limitations
- ☐ Sick at home/quarters
- ☐ Immediate referral
- ☐ Left without being seen
- ☐ Left against medical advice
- ☐ Admitted
- ☐ Expired

ADMINISTRATIVE (Optional)

- ☐ Consultation requested
- ☐ Referred to another provider
- ☐ Convalescent leave
- ☐ Medical board
- ☐ Medical hold

06/07/1996 08:25

ABBA,ALLAN A

MALE

12 ELM STREET

MAYSVILLE NORTH CAROLINA 28555

(Home) 743-2483

FMP/Sponsor SSN:

20/123-46-1111

Patient SSN:

123-46-1111

Date of Birth:

26 DEC 60

(Work)

451-3345

BABZ/ALLERGY TRNG CLINIC

GEN-ROU

APPOINTMENT STATUS

- ☐ Appt. Sched.
- ☐ Cancelled
- ☐ Walk-in
- ☐ Sick-call
- ☐ Tele. Consult
- ☐ No-show

Insurance Company:

Telephone:

Subscriber's ID Number:

Group:

Group Number:

Subscriber's Name:

Patient Relationship:

Provider: ACUNA,STEVE

PCM:

Physician's Signature & Name Stamp

Front

DO NOT WRITE IN THIS SPACE**DO NOT USE PENS THAT
HAVE
"BLEED THROUGH" INK****OTHER DIAGNOSES**Diagnosis: _____
Description: _____Diagnosis: _____
Description: _____Diagnosis: _____
Description: _____**ICD Code # 1****ICD Code # 2****ICD Code # 3****DIAGNOSES****OTHER PROCEDURES/EVALUATION & MGMT**Procedure: _____
Description: _____Procedure: _____
Description: _____Procedure: _____
Description: _____**CPT Code # 1****CPT Code # 2****CPT Code # 3****PROCEDURES****NEW PRIMARY
PROVIDER**

PROVIDER NUMBER

INSURANCE INFORMATIONDo You Have HEALTH INSURANCE (Do Not Include MEDICARE or CHAMPUS)? ☐ Yes ☐ NoHas Any Information Changed Since Your Last Visit? If Yes, Please Name Change ☐ Yes ☐ NoInsurance
Company Name:Phone
No.:Insurance
Company Address:Insurance
ID No.:Group
Name:Group
No.:Subscriber's
Name:Patient's Relationship
to Subscriber:**INSURANCE INFORMATION****ADDITIONAL PROVIDER**

PROVIDER NUMBER

PROVIDER ROLE

☐ Attending Provider☐ Assisting Provider☐ Supervising Provider☐ Nurse☐ Para-Professional**ADDRESS CHANGES/CORRECTIONS**

Name:

SSN:

Address:

City:

State:

Zip:

Patient Cat.: Other:

Home Phone No.: () - -

Work Phone No.: () - -

Sponsors Work Phone No.: () - -

PROVIDER / ADDRESS**ADDITIONAL PROVIDER**

PROVIDER NUMBER

PROVIDER ROLE

☐ Attending Provider☐ Assisting Provider☐ Supervising Provider☐ Nurse☐ Para-Professional**FOR OFFICIAL USE ONLY**

FMP

SPONSOR SOCIAL
SECURITY NUMBER

TIME

DATE
MO. DAY YR.**ADDITIONAL PROVIDER**

AMBULATORY DATA SYSTEM STANDARD REPORTS

The Ambulatory Data System (ADS) includes a set of standard system reports. These are designed to provide summaries of clinical, patient, and appointment data contained in the database, and to provide the user with information to assist in the process of completing or correcting encounter records. These reports are available to the user on demand and require only user confirmation of clinic and/or provider identification, and appointment date ranges to initiate. Additionally, ad hoc reporting capability provides users significantly increased flexibility to develop customized reports. Standard reports existing on ADS include the following:

Report Name	Description
Alphabetic Patient List by Provider	This report correlates patient records on ADS to specific providers and their associated clinic by a user-specified appointment date range
Clinic Workload for Inpatient Visits	This report displays visits of hospital inpatients to an ambulatory clinic, correlated by patient category and Uniformed Service.
Clinic Workload for Outpatient Visits	This report displays numbers of outpatient visits, by patient category and uniformed service, to an ambulatory clinic.
Diagnosis by Provider	This report displays a listing of diagnoses that have been bubbled on encounter forms by individual providers.
Diagnosis by Provider by Patient	This report displays a listing of diagnoses that have been bubbled on encounter forms by individual providers. A total count of the diagnoses for each patient, and a grand total of all listed diagnoses, are provided.
Encounters by Appointment Status by Clinic	This report displays counts of selected appointment types and status associated with encounters for individual clinics. Included are appointment scheduled, appointment canceled, walk-in, sick-call, telephone consultations, and no-show.
Encounters by Appointment Status by Provider	This report displays counts of selected appointment types and statuses associated with encounters for individual providers. Included are appointment scheduled, appointment canceled, walk-in, sick-call, telephone consults, and no-show.

Report Name	Description
Insurance Indicator	This report informs the user of the status of insurance information on CHCS based on a "yes" or "no", or the absence of a mark on each patient's ADS encounter form.
Patient Appointment Record Status	This report displays the status of appointment records on ADS for a specific clinic by date range. Included are record completed by form scan, record completed by online update, record not completed due to rejection of form by scan, and no record updates initiated.
Patient Categories by Patient Disposition	This report displays patient disposition types associated with patient category codes, by user selected clinic and date range.
Patient Categories by Provider	This report displays a listing of patient category codes reflecting the categories of patients seen by individual providers by clinic.
Patient Encounter by Provider	This report displays diagnoses and procedures selected on the encounter form for a list of individual patients for a given provider, a clinic, and a date range. Diagnoses and procedures, defined by ICD-9-CM/CPT number and description, are listed in patient appointment date order.
Patient List (Insurance Indicator Not Marked)	This report displays patients categorized by appointment date and for all clinics for whom the insurance indicator was not marked on the encounter form, and for whom CHCS does not have insurance information listed.
Procedures by Provider	This report displays a listing of procedures that have been bubbled on encounter forms by individual providers.
Procedures by Provider by Patient	This report displays a listing of procedures that have been bubbled on encounter forms by individual providers correlated to the specific patients for whom those procedures were performed. Procedures listed are identified by CPT code number and description.

A representative sampling of these reports appear on the following pages. Each sample is preceded by a brief explanation of the report. The data in this report does not represent actual information due to privacy act limitations.

APPENDIX D
ORGANIZATIONAL CHART
NAVAL MEDICAL CENTER PORTSMOUTH

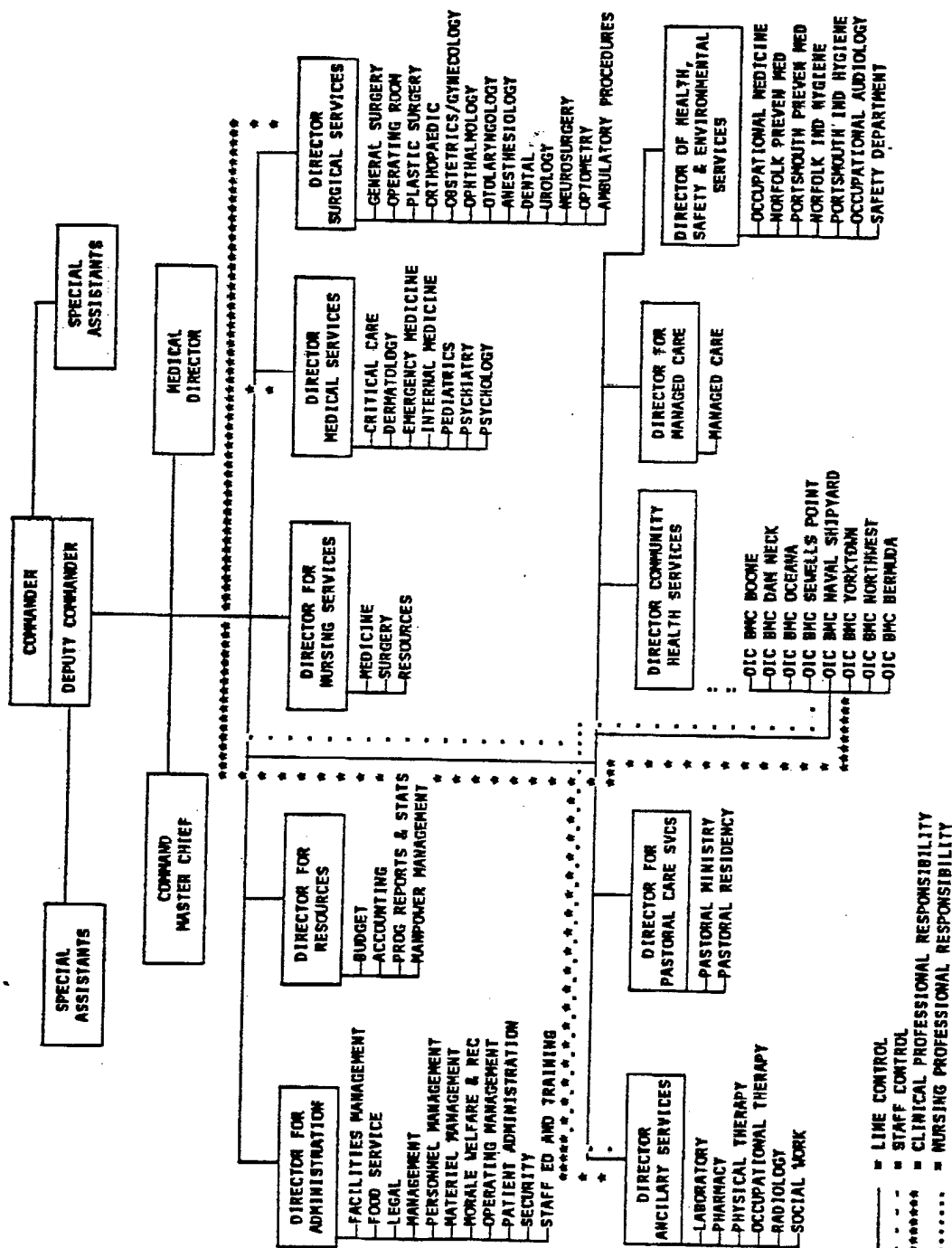


CHART NO. James Daniel
J. J. McDANIEL
RAADH, NC, USN
TRANSMISSION

APPENDIX E

ADS STANDARD OPERATING PROCEDURE OB/GYN CLINIC*

CHECK-IN DESK RESPONSIBILITIES:

I. Normal Routine (Pre-printed Forms)

1. Before the start of clinic, place the pre-printed ADS encounter forms from the overnight run in the patient's charts (OB) or attach to the SF-600 (GYN).
2. A. When the patient checks in, have them bubble in the insurance question on the back of the ADS encounter form.

B. Have the patient verify address and phone numbers pre-printed on the front of the form. If the address/phone numbers need updating, have the patient write the correct information on the back of the form and bubble in the address change on the front of the form.

C. Have the patient sign the front of the form.
3. When the patient checks out, be sure they do not leave with the ADS encounter form in their chart.
4. After the morning clinic and again after afternoon clinic the check-in desk should review each ADS encounter form for the following:
 - A. Address/phone number changes. Use the new information to update CHCS (mini-registration). Place a check-mark in the upper right-hand corner of the address change section on back of the form.
 - B. Separate all no-shows and cancellations. Verify that the ADS form status matches the CHCS end-of-day (EOD). This is very important because the ADS form will

* SOP created by Anita Faulkner, GYN Clinic, NMCP

override CHCS EOD when the form is scanned! Give these forms to the clinic ADS Administrator.

- C. Ensure that each form has the following bubbled: Diagnosis, E&M Code, Disposition, Appointment Status. If either the Diagnosis, E&M Code, or Disposition is not bubbled, return it to the provider with an ADS PROBLEM CHECKLIST (Exhibit A) attached. If the Appointment Status has not already been bubbled, do so at this time.
- D. If more than one Procedure is bubbled (procedure not required), ensure that each procedure corresponds with a diagnosis. Example: If there is only one Diagnosis bubbled then every procedure must also be bubbled as a "1". If this is not correct, return it to the provider with an ADS PROBLEM CHECKLIST attached.
- E. If more than one Diagnosis is bubbled, they must be in 1, 2, 3, 4 order. Example: You cannot have more than one "1" Diagnosis. If this is not correct, return it to the provider with an ADS PROBLEM CHECKLIST attached.
- F. Ensure that the provider has signed the form (ideally they should also be stamping these forms with their name/SSN stamp).
- G. If the provider whose name is pre-printed on the form is the provider who has signed the form and the only one who saw the patient, and Steps 4.A-F are complete, give these forms to the clinic ADS Administrator.
- H. If the provider whose name is pre-printed on the form is not the provider who has signed the form please check the following:
 - 1. If an Additional (Secondary) Provider has signed the form, ensure that they have bubbled in their SSN in the ADDITIONAL PROVIDER block on the back of the form and also bubbled the PROVIDER ROLE (usually "Assisting Provider").
 - 2. If a New Primary Provider has signed the form (Resident or Staff), ensure that their SSN has been bubbled in the NEW PRIMARY PROVIDER block on the back of the form.

3. If a Resident and Staff have both signed the form, ensure that the staff's SSN has been bubbled in the ADDITIONAL PROVIDER block and the PROVIDER ROLE of "Supervising Provider" is bubbled.

These forms are now ready to give to the clinic ADS Administrator if Steps 4.A-H are complete.

5. Check Sample Form Supply. Maintain at least a three-day supply of sample forms for each type of form your clinic uses.
6. Fill the ADS Printer with blank forms at the close of clinic each day.

NOTE 1: Correction fluid and labels or tape cannot be used on ADS forms. If a form needs correction, pencil in the correction and the clinic ADS Administrator will generate and complete a new form.

NOTE 2: Ideally, No. 2 pencils should be used by the check-in personnel. Under NO circumstances should "roller-ball" or "magic/permanent" markers be used because they bleed through the form.

II. **Crisis Routine** (forms did not print in overnight run)

1. Ensure Printer shows "Ready" on Status Indicator. If "Ready" go on to Step 2. If Status Indicator shows ADD PAPER, fill with forms. If Status Indicator shows PROCESSING but no forms are printing, turn printer off, wait ten seconds, and turn back on again. If printer still does not show READY after taking these steps, notify the clinic ADS Administrator.
2. Go to the Main Menu on ADS. Select Patient Administration. Select ADS Patient List. If there IS a Patient List, go back to Main Menu and Select Forms Management. Select BATCH PRINT MODE and proceed. If there is NOT a Patient List notify the clinic ADS Administrator. Until you receive different directions, do the following: Attempt to walk-in patient on Walk-In screen. If not successful, use a Sample Form.

3. When using a Sample Form, do the following:

- A. When the patient checks in go to the "For Official Use Only" block on back of the form and write in FMP, Sponsor SSN, Time (of appointment), and Date. Write Patient Name and Provider Name on front of form. Have patient sign form and answer insurance question.
- B. After morning clinic and again after afternoon clinic follow Steps 4.A-H under Normal Routine Procedures. Additionally, bubble in the FMP, Sponsor SSN, Time (of appointment), and Date. Bubble in New Primary Provider on back of form.
- C. Proceed with Steps 4.B-F of Normal Routine Procedures.
- D. These forms are now ready to give to the clinic ADS Administrator.

PROVIDER RESPONSIBILITIES:

1. Complete the ADS form and give to the patient to take to the Check-In Desk. The following information must be bubbled on every form:
 - A. Diagnosis
 - B. E&M Code (Evaluation & Management; i.e., Office Visit)
 - C. Disposition
 - D. Procedure (when applicable)
2. If more than one Procedure is bubbled (procedure not required), ensure that each procedure corresponds with a Diagnosis. Example: If there is only one Diagnosis bubbled then every procedure must also be bubbled as a "1".
3. If more than one Diagnosis is bubbled, they must be in 1, 2, 3, 4 order. Example: You cannot have more than one "1" Diagnosis.
4. If a Diagnosis or Procedure Code that you need is not pre-printed on the front of the form, please use the OTHER DIAGNOSIS/OTHER PROCEDURES block on the back of the form to

write in the Diagnosis/Procedures. Be specific please-- include site. Example: Location of wound seroma. R/O or Probable cannot be used in the diagnosis. If you do not know the diagnosis then list the symptom(s).

5. Sign the form. (Ideally you should also stamp the form with your name/SSN stamp. Please stamp gently as the stamp can easily bleed through the form).
6. If your name is not pre-printed on the front of the form, it is helpful for you to bubble in your SSN in the New Primary Provider block on the back of the form. This ensures that you get credit for the visit.
7. If you make an error please pencil in the correction. The clinic ADS Administrator will generate and complete a new form.
8. Ideally these forms should be given to the patient to turn in at the Check-In Desk when they check-out. If for some reason this is not possible, they must be turned in by the close of clinic the day the patient is seen.
9. Check your mailbox daily. If you have forms that need correction, please do so by the close of clinic that day.

NOTE 1: Ideally, No. 2 pencils should be used by the check-in personnel. Under NO circumstances should "roller-ball" or "magic/permanent" markers be used because they bleed through the form.

NOTE 2: STAFF--if you want "credit" for overseeing residents, please instruct your residents to write your name under their signature when they sign the form. The Check-In Desk will then bubble in your SSN as an ADDITIONAL PROVIDER with a role of "Supervising Provider".

NOTE 3: FIRST YEAR GYN RESIDENTS--If your name is not pre-printed on the front of the ADS form, write-in and bubble your SSN as ADDITIONAL PROVIDER. Bubble in the role of "Attending Provider". Proceed with Steps 1-5, 7-8, and NOTE 1.

NOTE 4: ROTATING INTERNS--Write-in and bubble your SSN as ADDITIONAL PROVIDER. Bubble in the role of "Assisting Provider". Proceed with Steps 1-5, 7-8, and NOTE 1.

CLINIC ADS ADMINISTRATOR RESPONSIBILITIES

1. Investigate log-in or printer problems when notified by Check-In Desk personnel. Resolve if possible. If not, call the Computer Users Support Desk at 398-7200. Have mode/serial numbers of equipment on hand if applicable.
 2. Work with Check-In Desk personnel and providers to augment training they have received from Staff Education. Stay updated on new versions of ADS as they are installed and update Check-In Desk personnel and providers.
 3. Review all forms turned in by the Check-In Desk. Correct/Send Back any incorrect forms. Generate/Complete duplicate form when new form is warranted (i.e., heavy erasures/crossed out bubbles, etc). Correction fluid, labels, tape cannot be used on forms. Separate into two piles: forms to be coded and forms that DO NOT need to be coded.
 - A. All forms that have a "write-in" diagnosis or procedure on the back of the form must be sent to 3rd Party for coding. Attach a transmittal to each form (Exhibit B). Copy front/back of form for your files. Send these forms directly to your clinic's designated 3rd Party representative. Ideally you should have a runner deliver these. If not, send via guard mail.
 - B. Upon receipt of these same forms FROM 3rd Party, you will need to bubble in the codes and proceed as noted in Step 4 for scanner processing. At this time you can destroy the copied forms from your files.
 4. For the forms that do not need coding, proceed as follows:
 - A. Separate Active Duty (prefix 20) from all other forms (Non-Active Duty). Put these in date order and send to the scanner in batches of 25 (approximate). Do the same thing with Non-Active Duty forms. As OB/GYN does not have their own scanner, put these in envelopes (NOT guard mail) addressed:

To: OIC, Building 2
From: Name (Clinic ADS Administrator)
Dept (GYN-PGH or OB-Building 1)
Mail Code
- GYN: Have runner deliver these on a DAILY basis (and

pick up scanned forms at that time).

OB: Deliver forms to be scanned and pick-up scanned forms on a daily basis.

B. When you receive (or pick-up) scanned forms, proceed as follows:

1. Pull out the Scanned Encounter Forms Status Report. Each form that has been rejected and needs to be edited will be listed in this report. Attach each rejected form to the report.
2. Take all Active Duty (prefix 20) forms and store as directed by the ADS Administrator (disposal undecided at this time).
3. Take all non-Active Duty forms and send to your designated 3rd Party Representative.
4. Edit on-line all rejects until you achieve a "SAVED" status. After editing follow Steps 4.B.2-3.
5. When you find the need to add or delete ICD-9 (Diagnosis) or CPT-4 (Procedure) codes, notify your designated 3rd Party Representative via e-mail.
6. Document all problems, questions, and trouble-calls via e-mail to G.ADS. We all learn from each other.

EXHIBIT A

ADS PROBLEM CHECKLIST

___ GYN GEN

___ GYN SPECIALTY

___ OB

PLEASE BUBBLE THE FOLLOWING:

- ___ Appointment Status
- ___ Disposition
- ___ FMP-Sponsor SSN-Time-Date
- ___ Secondary Provider SSN
- ___ Secondary Provider ROLE
- ___ New Primary Provider SSN

OTHER:

- ___ Diagnosis (ICD-9) Required
- ___ E&M Code Required
- ___ Provider's Signature/Name Stamp
- ___ DX/Procedure CANNOT be written on front of form
- ___ DX must be in 1, 2, 3, 4 order
- ___ Procedure must correspond with specific DX (More than one 1 OK)
- ___ Need Address Correction in CHCS
- ___ 3rd Party cannot read DX/Procedure or need more information

PLEASE LEAVE THIS CHECKLIST ATTACHED!!!!

EXHIBIT B

ADS 3RD PARTY TRANSMITTAL SHEET

DATE: _____

TO: LYNN CLARKE
3RD Party Claims

FROM: Anita Faulkner
GYN Clinic
0605 Administration

The attached ADS form(s) need(s) coding. After coding,
please these to the GYN Clinic for scanning. Thanks.

APPENDIX F
ADS TRAINING PLAN

15 November 95--

ADS FUNCTIONAL TRAINING PLAN (Draft)

AUTHORITY

The Ambulatory Data System Software Version 1.0 Training Plan was developed under the direction of Office of the Assistant Secretary of Defense for Health Affairs by the Naval Medical Information Management Center, Bethesda, Maryland. EDS D/SIDDOMS of Falls Church, Virginia is referred to as the developer throughout this document.

PURPOSE

This document describes the training approach that contracted and site personnel will use to support the Ambulatory Data System implementation at all Navy facilities.

The objective of this training plan are as follows:

- Provide a pre-deployment Ambulatory Data System Functional Training Plan to assist sites in the implementation process
- Define the audience to be trained
- Identify the purpose and scope of the training
- Provide a brief background description of ADS
- Describe the roles and responsibilities of the organizations that will provide training support
- Provide an overview of the ADS training approach including training objectives, competency checklists, training schedule, course materials, instructional outlines, and course evaluations
- Address the Privacy Act and other security training necessary for system administrators and end-users

SCOPE

The developer will provide all training materials required to facilitate ease in end-user education in the daily use of this system including quick reference guides for each outpatient clinic and/or treatment area. All training materials must conform to and meet Navy Medical and Dental business practices to avoid delays in outpatient care and/or treatment.

BACKGROUND

The ADS is an automated information system (IS) developed to automate and standardize the Armed Forces Outpatient Data Collection Process.

ADS is a tri-service program providing Military Health Services System (MHSS) outpatient data collection management support for the Armed Forces throughout the continental United States and potentially overseas.

ADS supports the management and tracking of outpatient data collection by interfacing with the Composite Health Care System. Through this interface patient demographic data, provider profiles, and third party insurance data is downloaded as a baseline of outpatient information. This information is then used in conjunction with the ADS diagnosis and procedure codes to accurately quantify outpatient visit counts and to determine required operational expenses for the delivery of outpatient care.

GOALS

- To set guidelines for the training of the Ambulatory Data System for the Navy
- To standardized that training at all Military Medical and Dental Treatment Facilities within the continental United States including non-military contract facilities providing similar and/or like services to our beneficiary population
- To utilize pre-existing contracted support to provide on-site Ambulatory Data System User Training
- To assist in the deployment process by coordinating user training with scheduled Ambulatory Data System hardware installation (where the training room itself is of highest priority, then a succession of predetermined outpatient clinics and/or treatment areas are installed)

GENERAL ASSUMPTIONS

- That the funding required for this evolution will be available
- That all 20 full-time equivalent SAIC existing contract support personnel can be dedicated to provide required on-site user training

- That all sites will have either reconfigured existing CHCS training rooms to meet the requirements of an ADS training environment or prepared separate yet fully operational training rooms for the same purpose prior to the installation of ADS within their outpatient clinics

PRE-TRAINING CONTRACTOR REQUIREMENTS

- That the existing centralized training environment located in Falls Church, Virginia and run by SRA be reconfigured to PC Workstations in order to emulate the "real" and anticipated ADS environment Navy wide
- That all ADS training environments have connectivity to the Composite Health Care System Training database in order to meet end-user needs. This task must be completed in the existing centralized training environment located in Falls Church, VA prior to the commencement of System Administrator, Database Administrator, and Coding Specialists training
- That site identified System Administrators, Database Administrators, and Coding Specialists be provided "centralized functional training" by SRA located in Falls Church, Virginia shortly before hardware and software installation is completed at their specific sites (training must occur no earlier than three weeks prior to installation within the outpatient clinic environments)

TRAINING OBJECTIVES

- To provide Ambulatory Data System User Training to predetermined site personnel whose functional role and responsibility it is to utilize this system as part of outpatient care procedures in support of Department of Defense mandates for the collection of outpatient services provided

The ADS training objectives will apply to all ADS Software Version 1.0 site training. How well each of the functional area objectives are met will determine and measure the effectiveness of the training. Upon completion of the ADS training, class participants will be able to accomplish all ADS functional requirements associated with their specific roles and responsibilities. They should all received certificates of completion indicating that they have successfully completed course objectives

TRAINING PROFILE

- A training profile typically identifies "who needs the training." These individuals are predetermined by the sites months in advance of the actual ADS training room hardware and software installation

- Although the sites are responsible to determine who of their staff requires training; there are five separate ADS functional areas that would need to be addressed:

Outpatient Clinic Clerks (those currently performing CHCS patient appointments and scheduling; they will also be responsible for printing batch encounter forms for upcoming patient appointments; printing batch sample encounter forms for all walk-in appointments; operating the ADS/CHCS PC Work Station; operating scanners; facilitating the correction of scan sheet errors; and performing basic scanner preventive maintenance)

Outpatient Clinic Providers (fill-in the scan sheet with the appropriate diagnosis and procedures codes associated with each outpatient clinic visit)

Coding Clerk (normally a Certified Medical Records Technician/Coder)

Site ADS System Administrator (new system users access, system security, ad hoc reports)

Site ADS Database Administrator (individual responsible for the maintenance and daily use of the ADS system as a whole: includes hardware, software, backup tapes, installation of system software upgrades, daily preventive maintenance as well as developer recommended PM schedule)

ROLES AND RESPONSIBILITIES

EDS D/SIDDOMS - To provide all training materials required on time

SRA - To reconfigure existing centralized training room to meet Navy PC work station and CHCS connectivity requirements

SAIC - To provide ^{initial} ~~all necessary~~ on-site ADS functional training support ~~until all on-site requirements have been successfully met and~~ to do so within specified time constraints in conjunction with ADS delivery and installation schedules

Service Functional Representatives - To coordinate the deployment, implementation, and training evolution of the Ambulatory Data System

Site Point of Contact - To facilitate the smooth transition of all on-site facility training, end-user requirements, and follow-on training

TRAINING APPROACH

For ADS Software Version 1.0 deployment sites, SAIC personnel will provide the initial on-site ^{only} training for all end-users. A minimum of 2 and a maximum of 10 students per ADS functional area will be trained in each class. Training at sites will consist of no less than 2 days, but no more

than 3 days of functional training for outpatient clinic personnel. It is the sites responsibility to name, and appoint in writing, individuals who will be responsible for all follow-on training and ensure that employees not attending an initial class provided by the contractor are trained thoroughly in the proper use of this system.

OTHER ISSUES THAT NEED TO BE ADDRESSED:

HARDWARE

SOFTWARE

SECURITY AND PRIVACY ACT REQUIREMENTS

SITE PRE-DEPLOYMENT CHECKLIST

TRAINING SCHEDULE

COURSE MATERIALS

LOCATION OF TRAINING

INSTRUCTION CURRICULA

EVALUATIONS

SITE EMERGENCIES

1500
0212
13FEB96

MEMORANDUM

From: Joe Neely (ADS Training Coordinator)
To: Lu Anne Edwards

Subj: RESPONSE TO ADS FUNCTIONAL TRAINING PLAN (Draft)
15 NOVEMBER 95 AND PHONE CONVERSATION (NMIMC)

1. The Naval Medical Information Management Center (NMIMC), Bethesda, Maryland has produced a thumb nail sketch outlining the facilities, resources and scheduling necessary to implement Ambulatory Data System (ADS) training at Naval Medical Center, Portsmouth (NMCP). The information set forth in this draft does not take into account certain limitations existing in Staff Education and Training, nor does it necessarily reflect the thinking of the Composite Health Care System (CHCS) training staff and their philosophy of instruction. Without specific information regarding funding it is difficult to suggest what is possible and what is not possible.

2. Before on-sight ADS computer training can begin a space must be identified and equipped for this purpose. Currently, CHCS training operates three classrooms in Bldg. 272. These classrooms are equipped with (dumb) terminals sufficient to accommodate ten students and one instructor. One classroom is available for ADS training. This classroom will need the following equipment:

- 11 PC's
- 6 printers
- 5 A/B switches
- 1 scanner/server

NMIMC will provide the following classroom equipment:

- 10 PC's
- 1 Printer
- 1 Application Server (Scanner)
- 1 Data Base Server

Scheduling ten students per class and three classes per week will allow a training rate of thirty students per week by compressing the training time from a maximum of twenty four hours to a maximum of eight hours. This classroom will satisfy the training requirements for those individuals having a need to use ADS terminals in the clinics. **RECOMMEND:** a minimum of two people per clinic attend the training. **CONCERN:** Will the keyboard mapping problems be resolved so that the ADS PC's can also be used for teaching CHCS? If not, CHCS training capacity will be reduced by one third. Will the clinics maintain separate

terminals for CHCS and ADS?

3. ADS Coding will be taught to the providers in the auditorium located in Bldg. 215. Two, three hour blocks of training will be presented per day. Each session will accommodate fifty providers. Training will begin on 1 May 1996. By close of business 10 June 1996 there will have been opportunities for one thousand providers to attend the training.

4. One contract trainer will be available for on-sight training for a period not to exceed two weeks. Recommend that this trainer be used to mentor the CHCS trainers and serve in a liaison capacity expediting any necessary communication with SAIC. Centralized training will be provided by SAIC in Falls Church for the following individuals working at NMCP:

- System Administrator
- Functional Type
- Wild Card (anyone we want to send)

NOTE: The three individuals selected for the centralized training should have a passing knowledge of UNIX to maximize the training opportunity.

5. The following costs will be incurred by NMCP:

- Encounter Forms
- duplication of training materials

6. Lt. Weiss (NMIMC) has indicated that installation of equipment should begin mid-May and be completed mid-July or August. The sequence of installation will be dictated by the structural characteristics of each building as opposed to the location of each clinic. Time line should be available by mid-March. **RECOMMEND:** training effort be coordinated with installation of equipment to reduce time lag between training and application of training.

7. If NMCP is capable of conducting initial training inhouse with minimal support from SAIC there is reason to believe that additional training resources could be made available (PC's, printers etc.). Additional equipment is available for ADS PC training if a second classroom can be found. Should the Space Utilization Committee be contacted?

ADS CLERK TRAINING

I. Orientation to ADS

- *Definition
- *Purpose
- *Benefits
- *Scope
- *Interaction with CHCS

II. Encounter Forms

- *Marking
- *Correcting
- *Printing/Reprinting

III. Introduction/Overview of "WINDOWS"

- *Pointing/Clicking
- *Maximizing/Minimizing
- *Opening/Closing
- *Clicking/Dragging

IV. Clerk's Role

- *System Log-In/Out
- *System Security/ Changing Passwords
- *Menu Access
- *Data
 - Downloading from CHCS (Scheduled Appointments)
 - Unscheduled Visits (Walk-Ins)
 - Retrieving Patient Demographics
 - Updating CHCS
 - Editing Patient Information
 - Tel-Con
 - Selecting Correct Provider
- *Printing Batch Forms
- *Printing Sample Forms
- *Reprinting Forms
- *Cancel Print Jobs

V. Printer Operations

- *Loading
- *Preventive Maintenance
- *Corrective Maintenance

VI. Troubleshooting

- *Trouble Calls (Protocol)
- *System Down (What Can I do?)

ADS SUPERVISOR TRAINING

I. Printer Operations

- *Form Alignment**
- *Maintenance**

II. Scanner Operations

- *Scanning Completed Forms**
- *Simple Scanner Maintenance**
- *Clearing Paper Jams**
- *On-Line Editing**
- *Rejects (Cause & Cure)**
- *Reporting Problems**

III. Form Overlays

- *Procedure for Adding New Diagnoses to Existing Forms**

V. Reports

- *Accessing Existing Reports**
- *Types of Reports Available for Clinic Use**
- *Need for Ad Hoc Reports**

IV. Troubleshooting

- *Simple In-Clinic Problems/Fixes**
- *Protocol for Reporting Difficult Problems**

ADS PROVIDER TRAINING

I. Encounter Forms

- *Marking
- *Signing
- *Rejections (Cause & Cure)
- *Diagnoses/CPT-4 Correlation (Problems/Prevention)
- *Stamping Problems
- *Additional Provider

ADS EQUIPMENT INSTALLATION
LESSONS LEARNED

Friday, 29 March 1996, Staff Education and Training Department had the following equipment installed by RSSI with on sight assistance from Lt. Weiss representing NMIMC:

<u>Item</u>	<u>QTY</u>	<u>Dimension</u>
CPU (computer)	11	06.00"H X 15.50"W X 17.00"D
Keyboard	11	02.00"H X 18.00"W X 06.75"D
Monitor	13	18.00"H X 16.00"W X 16.00"D
Printer	02	13.00"H X 13.50"W X 26.50"D
Scanner	01	08.00"H X 39.25"W X 13.00"D

The CPU's are not "tower design". NMIMC recommends CPU's sit flat on desk or table top. If clinics or MID decide to place CPU's on floor NMCP may want to consider purchasing the appropriate number of stands to improve the stability of units sitting on their sides. Recommend thought be given to this issue prior to installation of equipment.

In a telephone conversation with Lt. Weiss, 5 April 1996, I expressed the following concerns regarding the installation of equipment in Classroom #3, Bldg. 272:

Contract workers showed little regard for sensible placement of new equipment. Example: placing table and equipment in a location that would limit future access to white board at front of classroom. When this situation was brought to their attention, they did relocate table and equipment.

Contract workers showed little regard for sensible placement of wires. Example: allowing wires to rest on the floor including aisles. When this situation was brought to their attention, they asked if we had any tape. Some wires were tacked to the floor with the tape we provided.

Contract workers were working at a frenzied pace not likely to produce a quality product. Connect here, connect there, quick check to verify function, gone.

Contract workers felt justified leaving behind an unsafe working environment. Wires taped to floor, wires dangling from behind installed equipment so that students walking by or moving in their chairs might become entangled in the spaghetti.

Lt. Weiss, Wayne Richardson and I removed the CPU's and monitors from the boxes, placed them on the desks and stacked the empty boxes in another location. Do we want clerical personnel, working in the clinics, to get this

involved. Consider potential for personal injury and damage to equipment.


RECOMMENDATIONS:

Prior to installation, each clinic should survey their area to determine where the new equipment is to be placed. Refer to equipment dimensions listed above. If additional furniture is needed, now is the time to procure it.

Consideration should be given to establishing a support team that will work in conjunction with RSSI to ensure that the detail work is completed to a standard consistent with First and Finest. Managing the details will:

- * have a positive effect on the end user
- * reduce future cliches associated with quick and dirty installation
- * keep NMCP in touch with the process, reducing response time to problems as they arise


May 1996 ADS TRAINING SCHEDULE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
6 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	7	1 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	2	3 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD
13 ADS CLERK (3)	14 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD	8 ADS CLERK (3)	9	10 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)
20 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	21	15 ADS CLERK (3)	16 Ascension Day	17 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)
27  Memorial Day (Observed)	28	22 ADS CLERK (3)	23	24 ADS CLERK (3)
		29 ADS CLERK (3)	30	31 ADS CLERK (3)

June 1996 ADS TRAINING SCHEDULE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	4	5 ADS CLERK (3)	6 Corpus Christi	7 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)
10 CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	11	12 ADS CLERK (3)	13	14 Flag Day
17 ADS CLERK (3)	18	19 ADS CLERK (3)	20 Summer begins	21 ADS CLERK (3)
24 ADS CLERK (3)	25	26 ADS CLERK (3)	27	28 ADS CLERK (3)

July 1996 ADS TRAINING SCHEDULE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1 [ADS CLERK (3)]	2 [CODING/PROVIDER (AM) AUD] [CODING/PROVIDER (PM) AUD] [ADS CLERK (3)]	3	4  Independence Day	5
8 [CODING/PROVIDER (AM) AUD] [CODING/PROVIDER (PM) AUD] [ADS CLERK (3)]	9	10 [ADS CLERK (3)]	11	12 [ADS CLERK (3)]
15 [ADS CLERK (3)]	16	17 [CODING/PROVIDER (AM) AUD] [CODING/PROVIDER (PM) AUD] [ADS CLERK (3)]	18	19
22 [ADS CLERK (3)]	23	24 [ADS CLERK (3)]	25	26 [ADS CLERK (3)]
29 [ADS CLERK (3)]	30	31 [ADS CLERK (3)]		

August 1996 ADS TRAINING SCHEDULE

MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
5	CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	6		7	ADS CLERK (3)	8		9	ADS CLERK (3)
12	ADS CLERK (3)	13		14	CODING/PROVIDER (AM) AUD CODING/PROVIDER (PM) AUD ADS CLERK (3)	15		16	
19	ADS CLERK (3)	20		21	ADS CLERK (3)	22		23	ADS CLERK (3)
26	ADS CLERK (3)	27		28	ADS CLERK (3)	29		30	ADS CLERK (3)

Training Status by Clinic

BLDG 215 1	USERS		POC NAME	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED					
Triage			CDR Gardner	398-5840		OPMAN	TBD
FAC TRACK			Zelda Deitch	398-7666		OPMAN	TBD
ER		X	Bridget Wakefield	398-7758		OPMAN	TBD
PEDIATRICS		X	R. Greenaway	398-7716		OPMAN	6/10/96
TRIPRIME		X	Boris Worlds	398-7896		OPMAN	TBD
GEN SURGERY		X	HIMCM Moreno	398-7575		OPMAN	6/10/96
AUDIOLOGY			HIM1 Townsend	398-5783		OPMAN	6/10/96
OPMAN			HIMCS Coogan	398-5783		N/A	6/10/96
E/N/T			HIM1 Townsend	398-5183		OPMAN	6/10/96
2,3,4,5							
NUTRITION		X	Pamela Raecke	398-5560		DIR SURG SERV	6/17/96
DIR SURG SERV		X	HIMCM Moreno	398-7575		N/A	6/17/96
PAIN			CDR Hunt	398-5129		DIR SURG SERV	6/17/96
ORTHOPEDICS			HIMC Korando	398-5213		DIR SURG SERV	6/17/96
PODIATRY			HIMC Korando	398-5213		DIR SURG SERV	6/17/96
HAND			HIMC Korando	398-5213		DIR SURG SERV	6/17/96
CAST			HIMC Korando	398-5213		DIR SURG SERV	6/17/96
UROLOGY		X	Dawn Benhall	398-5234		DIR SURG SERV	6/17/96
PULMONARY		X	Cynthia Foster	398-5202		DIR SURG SERV	6/17/96
6,7,8							
APD		X	HIM2 Mosey	398-6078			TBD
ANESTHESIA		X	HIM3 Tim Ray	398-5779			TBD
PHYS THER		X	Connie Emrich	398-5313			6/24/96
CARDIOLOGY		X	HIMC Korando	398-5213			BETA 05/22/96
OPHTHALMOLOGY		X					6/24/96
9,10,11							
NEUROSUR		X	HIM2 William McKGrew	398-5250			6/24/96
RHEUMATOLOGY		X	Jodi Neighbors	398-7936			6/24/96
NEPHROLOGY		X	Cindy Bryant	398-5451			6/24/96
GASTROENTEROLOGY		X	Mercedes Benmon	398-5371			6/24/96
ENDOCRINOLOGY		X	Nancy Stewart	398-5162			6/24/96
CHEMO		X	CDR McKnight	398-7164			6/24/96

Training Status by Clinic

	USERS		FORMS BUILT	POC NAME	PHONE	IP ADDRESS	FORMS		ACTIVATION DATE
	ENTERED	TRAINED					SCANNED BY		
BLDG 1									
INFO DESK		X		LT Duncan	398-7957		N/A		7/1/96
PSYCHOLOGY		X		Tero Carney	398-7641		INFO DESK		7/1/96
PEDIATRICS		X		Linda Watts	398-7358		INFO DESK		7/1/96
ADOLE'S PEDIATRICS				HN Kouts	398-7966		INFO DESK		7/1/96
RADIATION				CDR Sobczak	398-5730		INFO DESK		7/1/96
PSYCHIATRY		X		Barbara Gabriele	398-5281		INFO DESK		7/1/96
OCC THERAPY				LT Coniglio	398-5422		INFO DESK		7/1/96
ONCOLOGY		X		CDR Sobczak	398-5730		INFO DESK		7/1/96
INFECTIOUS DISEASE				Tami Brinkley	398-5179		INFO DESK		7/1/96
HIV				W. Clayton	398-5179		INFO DESK		7/1/96
OB		X	X	Donna Coulk	398-5684		INFO DESK	BETA 05/22/96	7/1/96
NEPHROLOGY				Cindy Bryant	398-5451		INFO DESK		7/1/96
IMMUNIZATIONS							INFO DESK		7/1/96
DERMATOLOGY		X		Dawn Touchstone	398-5405		INFO DESK		7/1/96
L&D		X		Dottie Vexler	398-4806		INFO DESK		7/1/96
ULTRASOUND		X		Ellen Henderson	398-5456		INFO DESK		7/1/96

Training Status by Clinic

	USERS		FORMS		POC		IP		FORMS		ACTIVATION	
	ENTERED	TRAINED	BUILT		NAME	PHONE	ADDRESS		SCANNED BY		DATE	
PGH					Dottie Vexler	398-4806					BETA 05/22/96	
GYN		X	X		Dottie Vexler	398-4806			GYN			
BREAST		X							GYN		6/10/96	

Training Status by Clinic

	USERS		FORMS		POC		IP		FORMS		ACTIVATION	
	ENTERED	TRAINED	BUILT	NAME	PHONE	ADDRESS	SCANNED BY	DATE	DATE	DATE	DATE	DATE
123 A&B												
ALLERGY		X	X	Pat Smith	398-7826						BETA 05/22/96	
ENDO				Nancy Stewart	398-5162						6/10/96	
SICK CALL				HMC Laurenson	398-5079						6/10/96	
INT MED		X		LT Beard	398-5019						6/10/96	
OCC HEALTH		X		CDR Rudolf	444-1420						6/10/96	

Training Status by Clinic

	USERS		POC	NAME	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED						
107								
CCEP		X		HM1 Adam North	398-6846		OPMAN	7/1/96
DAPA		X		HM2 Kimberly	398-5332		OPMAN	7/1/96
PREV MED					398-5211		OPMAN	7/1/96

Training Status by Clinic

	USERS		FORMS		POC	NAME	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED	BUILT							
249					LT Luehn	398-5861			OPMAN	7/1/96
SOCIAL SERV					LCDR Jones	398-7801			OPMAN	7/1/96
FAM ADVOC										

Training Status by Clinic

	USERS		FORMS BUILT	POC NAME	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED						
250								
COMP RM							N/A	N/A
MID ADMIN							N/A	N/A
TPOCS							N/A	N/A

Training Status by Clinic

SEWELL'S	USERS		POC		IP		FORMS		ACTIVATION
	ENTERED	TRAINED	BUILT	NAME	PHONE	ADDRESS	SCANNED BY	DATE	
ACUTE CARE				HMCS Duane Hooplapa				7/15/96	
IMMUNIZE								7/15/96	
PREV MED								7/15/96	
HLTH PROMO								7/15/96	
OPTOMETRY								7/15/96	
SICK CALL								7/15/96	
OCC HEALTH								7/15/96	
AVIATION								7/15/96	
FAM PRACT								7/15/96	
OB GYN								7/15/96	
PHY EXAMS								7/15/96	

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Training Status by Clinic

	USERS			POC	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED	FORMS BUILT					
BOONE				LT B. Volypka/HMC Ghall				7/10/96
CHAMPUS								7/10/96
HLTH PROMO								7/10/96
PREV MED								7/10/96
PEDS								7/10/96
TRICARE								7/10/96
AUDIO								7/10/96
OPTO								7/10/96
SICK CALL								7/10/96
IMMUNIZE								7/10/96
OB GYN								7/10/96
MACD								7/10/96
PHY EXAMS								7/10/96
OVERSEAS								7/10/96
PHY THER								7/10/96

Training Status by Clinic

	USERS		FORMS BUILT	POC NAME	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED						
OCEANA				LT Gardner/HMC Cablad				7/8/96
AVIATION								7/8/96
OCC HEALTH								7/8/96
ER								7/8/96
MACD								7/8/96
AUDIO								7/8/96
PHYS THER								7/8/96
OB GYN								7/8/96
IMMUNIZE								7/8/96
HLTH PROMO								7/8/96
TRICARE								7/8/96
SICK CALL								7/8/96
OPTOMETRY								7/8/96

Training Status by Clinic

	USERS			FORMS		POC	PHONE	ADDRESS	FORMS SCANNED BY	ACTIVATION	
	ENTERED	TRAINED	BUILT	BUILT						DATE	DATE
DAM NECK										7/8/96	7/8/96
MED REC											
CHECK-IN											

6/4/96

Training Status by Clinic

	USERS		POC	NAME	PHONE	IP ADDRESS	FORMS		ACTIVATION DATE
	ENTERED	TRAINED					FORMS BUILT	SCANNED BY	
LAFAYETTE									
BLDG A									
AUDIO				Lavern Hurdle					7/15/96
FAM ADV									7/15/96
PHY THER									7/15/96
NUTRITION									7/15/96
BLDG C									
MENT HLTH									7/15/96

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Training Status by Clinic

	USERS		FORMS BUILT	POC NAME	PHONE	IP ADDRESS	FORMS SCANNED BY	ACTIVATION DATE
	ENTERED	TRAINED						
SHIPYARD								
BLDG 264								
RM 125								7/22/96
AUDIOLOGY								7/22/96
OPTO								7/22/96
SICK CALL								7/22/96
PHY EXAMS								7/22/96

Training Status by Clinic

	USERS		FORMS		POC	PHONE	IP	ADDRESS	FORMS SCANNED BY	ACTIVATION	
	ENTERED	TRAINED	BUILT	NAME						DATE	DATE
YORKTOWN											
RM 304										7/22/96	
OCC HEALTH										7/22/96	
SICK CALL										7/22/96	
OPTO										7/22/96	
MED REC										7/22/96	

APPENDIX G

SAMPLE COPY OF THE AMBULATORY DATA SYSTEM
IMPLEMENTATION TEAM SURVEY

SURVEY OF THE AMBULATORY DATA SYSTEM IMPLEMENTATION TEAM

The following is a survey for randomly selected members of the Ambulatory Data System Implementation Team (ADSIT). Your responses will be used to evaluate the overall effectiveness of the ADSIT in accomplishing its tasks. **All responses are to remain anonymous.**

This survey is being conducted in conjunction with the Graduate Management Project through the U. S. Army-Baylor University Graduate Program in Health Care Administration. As such, your responses will be used solely by the researcher and will remain strictly confidential. Acknowledgement and credit is given to LCDR Paul Marcinko and CDR Steve Ulbricht for some of the questions used in this survey.

Please feel free to include any additional information which you believe to have had an impact on the functioning and/or effectiveness of the ADSIT. Your participation is appreciated and the researcher would like to thank you in advance for your assistance.

**SURVEY OF THE
AMBULATORY DATA SYSTEM IMPLEMENTATION TEAM**

1. What is/are the function(s) and objective(s) of the Ambulatory Data System Implementation Team (ADSIT)?

2. What are your responsibilities as a member of the ADSIT?

3. Have the functions of the ADSIT been adequately defined? If not, what function(s) have not been adequately defined?

4. Have your responsibilities been adequately defined? If not, which responsibilities have not been adequately defined?

5. How would you rate the overall effectiveness of the ADSIT in meeting its objectives?

VERY EFFECTIVE	SOMEWHAT EFFECTIVE	EFFECTIVE	INEFFECTIVE	VERY INEFFECTIVE
1	2	3	4	5

6. What could be done to improve the effectiveness of the ADSIT?

7. Do you feel the composition of the ADSIT was appropriate? If not, what do you feel is the appropriate composition?

8. What expertise did you bring to the ADSIT?

9. Please describe the communication process of the ADSIT?

10. Do you feel the communication process was effective? If not, what would have made it effective?

11. Describe the leadership style of the team leader?

12. How do you rate the team leader's performance?

VERY EFFECTIVE	SOMEWHAT EFFECTIVE	EFFECTIVE	INEFFECTIVE	VERY INEFFECTIVE
1	2	3	4	5

12. How do you rate your own performance?

VERY EFFECTIVE	SOMEWHAT EFFECTIVE	EFFECTIVE	INEFFECTIVE	VERY INEFFECTIVE
1	2	3	4	5

Bibliography

- Anthes, G. H. "Why Uncle Sam Can't Compute." *Computerworld*, May 18 1992, 36-38.
- Austin C. J. and P. M. Sobczak. "Information Technology and Managed Care." *Hospital Topics* 71, no. 3 (Summer 1993): 33-37.
- Bales, J. D. "Preparing for the Downsizing and Closure of Letterman Army Medical Center: A Case Study." *Military Medicine* 158 (February 1993): 84-89.
- Bureau of Medicine and Surgery. *TRICARE..Your Military Health Care Plan*. Washington, DC: Bureau of Medicine and Surgery, 1996.
- CAPT John Sweeney, MC, USN. Edited by K. G. Lastrapes. Naval Medical Center, Portsmouth, VA, February 20, 1996.
- Department of Defense. *Medical Expense and Performance Reporting System for Fixed Medical and Dental Treatment Facilities*. DoD Directive 6010.13. Washington, DC, 1986.
- _____. "Ambulatory Data Collection." TRICARE Conference, 28 Jun, 1994.
- _____. "Health Care Reform in the Military Health Services System." TRICARE Mid-Atlantic Region 2 Resource Conference. Cherry Point, NC, 24-25 October, 1995.
- Deputy Secretary of Defense. *Uniform Health Maintenance Organization (HMO) Benefit*. Memorandum for the Under Secretary of Defense (Personnel and Readiness). Washington, DC: Department of Defense, 1994.
- Edwards, L. A. MEPRS Analysis Capabilities. Naval Medical Center, Portsmouth, VA, 21 Jan, 1996.
- _____. ADS Equipment Delivery. Naval Medical Center, Portsmouth, 12 APR, 1996.
- Edwards, Lu Anne, and Pat Marshall. "Ambulatory Data System Process "Ownership"." Naval Medical Center, Portsmouth, VA, 06 OCT, 1995.

- Enthoven, A. C. "Commentary: Measuring the Candidates on Health Care." *The New England Journal of Medicine* 327, no. 11 (10 September 1992): 807-09.
- Fisher, D. W. "A Review of Organizational Development." *The Journal of Nursing Administration* 10, no. 10 (1980): 31-6.
- Fuchs, V. *Who Shall Live?: Health Economics and Social Choice*. New York: Basic Books, Inc, 1974.
- Ivancevich, J. M., and M. T. Matteson. *Organizational Behavior and Management, 3rd Edition*. Burr Ridge, IL: Richard D. Irwin, Inc, 1993.
- Johnson, J. "Information Overload: CEOs Seek New Tools for Effective Decision Making." *Hospitals*, 20 October 1991, 24-27.
- _____. "Organization Development Interventions in Health Services: Looking Back and Moving Forward." *Organizational Development Journal* 10, no. 1 (Spring 1992): 73-78.
- Kibbe, D. C. "Information Technology Applications in Quality Assurance and Quality Improvement, Part I." *Journal on Quality Improvement* 19, no. 9 (1993): 402-12.
- Kongstevdt, P. R. *Essentials of Managed Health Care*. Gaithersburg, MD: Aspen Publishers, 1995.
- KPMG Peat Marvick. *The Health Security Act Summary and Analysis*. Second Edition. KPMG Peat Marvick, 1993.
- _____. *1994 Health Care Expenditures to Exceed \$1 Trillion*. Update: Health Care. KPMG Peat Marvick, February 1994.
- Lastrapes, K. G. "The Evolution of Information Systems in Health Care Administration." Academy of Health Science, Fort Sam Houston, Texas, 10 JUL, 1994.
- LCDR G. Gabb. Concerns About ADS and Implementation. Naval Medical Center, Portsmouth, 07 FEB, 1996.
- Linial, G. "Effective Coalition Building." *Healthcare Executive*, January/February 1995, 45.

- Marcinko, P. "A Study of Naval Medical Center Portsmouth's Acute Care Facility Resource Planning Committee." Academy of Health Sciences, Fort Sam Houston, San Antonio, Texas, May, 1995.
- Margulies, N. "Managing Change in Health Care Organizations." *Medical Care* XV, no. No. 8 (August 1977): 693-96.
- McGuire, J. P. "The Growth of Managed Care." *Healthcare Financial Management* 48, no. 8 (August 1994): 10.
- Meyer, E. "Putting Development Principles Into Practice." *Journal of Healthcare Education and Training* 5, no. 1 (January 1991): 26-30.
- Morse, J. M. *Qualitative Health Research*. Newbury Park, CA: Sage Publications, Inc, 1992.
- Naval Medical Center, Portsmouth, VA. "Ambulatory Data System (ADS) Steering Committee." Instruction, 28 October 94, 1994.
- Office of the Assistant Secretary of Defense, Health Affairs. *Information Support for Revised Financing in TRICARE Regions 1,2, and 5*. Policy Statement. Washington, DC, 1995.
- _____. *Interim Ambulatory Data System Policy*. Policy Statement. Washington DC: Department of Defense, 1995.
- Office of the Assistant Secretary of Defense-Health Affairs. "Managed Care Programs." Washington, D. C., December, 1994.
- Office of the Secretary, Department of Defense. "Civilian Health and Medical Program of the Uniformed Services (CHAMPUS); TRICARE Program; Uniform HMO Benefit; Special Health Care Delivery Programs." *Federal Register*, 05 July 1995.
- Porras, J. I. and P. J. Robertson. 1992. Organizational development: Theory, practices, and research. In Handbook of Industrial and Organizational Psychology, Vol 3. 2nd ed. 719-822. Consulting Psychologists Press, Inc: Palo Alto, CA.
- Ronan, B. "Committee Planning Guide Simplify Relocations." *Health Facilities Management*, April 1990, 46-49.
- Schwartz, M. "HMO Plan Automates Health Care Delivery Process." *National Underwriter*, 15 JULY 1991, 12-13.

- Starr, B. "U. s. Military Enters the Managed Care Battle."
Business & Health, April 1993, 74-80.
- Toole, J. E., and S. L. Campbell. "The Decade Takes Shape:
Computers in Healthcare for the '90s." *Computers in
Healthcare*, March 1990, 20-22.
- Vallbona, C. S., Beggs-Baker and R. L. Baker. "The Impact of a
Health Information System in Ambulatory Care." *Methods of
Information in Medicine* 11, no. supplement (November 1978):
29-38.
- Whiting, D. "Case Management: An Evaluation of Psychiatric Case
Management at Naval Medical Center, Portsmouth, Virginia."
Graduate Management Project. San Antonio, TX: U. S.
Army-Baylor University, 1995.
- Widra, L. S., and M. D. Fottler. "Determinants of HMO Success:
The Case of Complete Health." *Health Care Management Review*
17, no. 2 (February 1992): 33-44.
- Yin, R. K. *Case Study Research Design and Methods*. Thousand Oaks,
CA: Sage Publications, 1994.